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ABSTRACT

Data were gathered on 134 maternity and pediatric nurse practitioners to determine what types of work experience, educational backgrounds, and personality traits were most conducive to successful orientation and commitment to the nurse practitioner role. The study population, comprising six separate groups trained in six-month continuing education programs, were studied at the time of program entry, at the end of training, at six months after training, and at fifteen months after training. Varied data collection methods were used during these four time periods, such as personality tests, competency inventory, student followup program evaluation surveys and personal interviews. Some of the major findings are as follows: (1) practitioners who were self-confident and assertive, and combined these qualities with warmth and dependability, did better than those who lacked these characteristics; (2) the most common changes that the practitioners reported were increased self-confidence and satisfaction with nursing as a career; (3) those practitioners who felt most competent in their skills were likely to be more assertive and self-confident; (4) those practitioners who were more highly committed and working as a nurse practitioner rated themselves as more competent than their less committed counterparts; and (5) the work setting in which the practitioners were employed affected their sense of commitment and competence in the role. (EM)

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COMPETENCE AND COMMITMENT:

THE MAKING OF A NURSE PRACTITIONER

Martha Sturm White, Ph.D.

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Chapter 1

INTRODUCTION

This research focuses on personality factors which are relevant to a new, expanded role for nurses--that of nurse practitioner.

The growth of nurse practitioner training programs has been rapid, with more than 250 programs established since 1965, and more than 8,000 nurse practitioners graduated from these programs.

While there are some who see this as an expansion of nursing's traditional role, others see it as a new role in nursing. There is agreement, however, that there are some new behaviors which are characteristic of most practitioners.

- They undertake more primary care, particularly care on an ambulatory basis. They are the first professional the patient encounters in the health care system.
- They emphasize health maintenance and prevention, as well as care of illness.
- They see risk-taking and accountability as an important part of their job.
- They collaborate with physicians and other health professionals in making joint decisions about patients.

The program devised by the faculty of the Department of Family Health Care Nursing for training maternity and pediatric nurse practitioners emphasized health and physical assessment skills, but it also stressed normal development and family dynamics, as well as the collaborative role and its place in contemporary health care delivery. Some classes were held jointly with the two types of practitioners, while others were held separately.

Selection was done by a faculty committee from each program. Although they obviously tried to select the "best" candidates, it was believed that in an experimental project such as this one the guidelines for selection should be kept as flexible as possible, and that individuals with a variety of backgrounds should be included. Risks were often taken if there was reason for believing an applicant had some potential which should be encouraged, and diversity of age, experience and interests were sought. Thus, although the applicants were carefully selected, the groups were often disparate and heterogeneous. This was particularly true of educational backgrounds. Since the project was conducted as a continuing education program, and the only education requirement was that the applicant have an R.N., more than half of those in the program had diploma or associate degrees. The rest had baccalaureate or, in a few cases, master's degrees.

Two styles of programs were alternated: a work-study and an in-residence program. In the former, the students had jobs, were sponsored by their agency or physician, and did their clinical training in their own setting. In-residence students were assisted with placements during their training.

At the time this project was undertaken in 1973, other practitioner training programs across the country were also evaluating their results and methods. Since many of these nationwide projects were focusing on patient satisfaction, quality of care, and health outcome measures, we believed that a more valuable contribution might be made by looking at an area with which few programs were concerning themselves, that of the important role of personality factors in the selection, performance, and commitment of the nurse to the new practioner role and her involvement in primary care.

There were many reasons for this focus, some planned, some fortuitous. Such a focus reflected the interests of the faculty conducting the program who were all part of a department of family health care nursing. With their professional interest in critical life transition periods, changing women's roles, the changing nature of families, and the selection of health providers who could provide quality comprehensive care, they welcomed information about personality factors which contributed to these topics. Moreover, they participated wholeheartedly in discussing goals of the training and desirable characteristics of the practitioner.

However, the research evaluation was kept separate from the training in order to obtain unbiased results. Although the faculty were aware in a very general way of the focus of the research, they had no knowledge of specific hypotheses beforehand. Rather they specified to the research investigator their goals, beliefs, and intentions, and these were translated into research aims. Many of the faculty were interested in questions of selection and excellence in the role. They wanted to know what personal traits, characteristics, or profiles were associated with satisfaction and competence in the practitioner role. Did nurses need certain basic personality characteristics to function effectively as practitioners, or did a variety of types and traits fit into the practitioner role and bring diversity and strength to it?

Such a focus, it was also felt, might result in some major theoretical and scientific contribution as well as empirical findings. Studies of adult men and women who are older than the ordinary college student are still rare, and increased knowledge about the effects of a major life transition such as this new role represents could constitute a genuine contribution to our understanding of adults and the meaning work has for their personal sense of worth and satisfaction with their lives.

The population for this study was unusual. It was to ultimately consist of 134 men and women who completed a 6-month training course at the University of California, San Francisco, during a 3-year period. Many had several years of work experience, and were making a major personal change and sacrifice to undertake such a period of time and commitment to a new role. Such a large number of individuals permitted adequate subsamples for many subsidiary questions, and was a large enough group to inspire confidence in the validity of the findings. Because the students came in waves of six different groups, a cross-sectional study was possible. And because we were able to follow them for a 2-year period after their entry into the program, we were also able to study them longitudinally, tracing their development and change during the program and after they were employed as nurse practitioners.

Last, but by no means least, the study of personality factors seemed appropriate to the very modest budget allotted in the grant for research. One person, half-time, with only minor clerical assistance and statistical help cannot carry out large-scale studies or extensive field research. The questions asked, and the methods used, must often be trimmed to an appropriate size rather than an ideal model. For example, paper and pencil tests were used rather than observation of behavior. Field studies of outcome were not possible. A control group could not be used. Such decisions were usually made, as is frequently the case, on the basis of available time rather than theoretical superiority. The beginning student may find this surprising, but the experienced researcher will only smile at so bald a statement of such an obvious fact of life.

This project provided a rare opportunity to study real life behavior. The little knowledge of adult behavior and development we have has often been derived from laboratory studies or brief questionnaires. However, this study permitted an ongoing record of the impact of a major occupational change on the individual, as well as a long-term evaluation of who would remain committed and attain a sense of competence in the role. Such applied studies can, if properly designed, go far beyond the evaluation of a single project, and can contribute to our general knowledge on such topics as development, socialization, personality dynamics, and work roles.

Research Objectives

The goals of the project were to study who was best suited for the role, to describe how nurses were changed by this new professional work concept and by their work experience, and to compare changes in health care practices. (The health care practices study will be reported separately by Elaine Adamson and Betty L. Highley.) We wished to determine what types of work experience, educational backgrounds, and personality traits were most conducive to successful role reorientation, and to commitment to the role of nurse practitioner. We also sought to determine if the new work role affected personality growth and development in the nurse herself. In addition, we planned to describe the effect of role performance of the supportiveness of the work setting.

Because of the innovative nature of the practitioner role, many significant questions about selection can be raised. What life experiences, academic training, and work experience are characteristic of the successful and committed practitioner? What attitudes, outlooks, and background factors are most highly related to successful role reorientation and to continuing identification with the role of nurse practitioner? What aspects of training make it difficult for nurses to achieve the new role of practitioner? How does training affect her subsequent health care and commitment to being a nurse practitioner?

The Effects of Work-Role Change on Personality

The project examined not only how personality factors enter into work role success, but how (and if) work role participation and success affect personality growth and development in the nurse herself. Many people simply assume constancy of personality throughout the adult life. However, recent research has begun to examine the effects of work role requirements and career expectations on personality. Though still in its infancy, the study of personality adaptation and development in adults has emphasized the importance of roles in effecting personality outlook and integration, whether these roles be as parents, administrators, welfare recipients, or nurse practitioners.

Through her training, the nurse practitioner adds new clinical skills and new interpersonal competencies to her repetoire. Does this particular set of competencies, in both nursing and medical fields, lead to increased self-confidence and self-esteem? Recent theory, such as that of Erik Erikson and Robert White,[1] would suggest that new competencies are often precursors of higher self-esteem. Did this higher self-esteem occur, and was it related to satisfaction with work and to quality of care?

The research had special significance because of the fact that a majority of the nurse practitioner students were women taking on a new career role, a role which emphasized responsibility, assertiveness, and collaboration. Past research on student nurses has identified women who, though possessing many outstanding traits of intelligence and character, nonetheless tend toward what are sometines described as "feminine" characteristics of submissiveness, neatness, and dependence.[2] The practitioner role attempts to expand the nurse's role to include greater initiative, responsibility, decisiveness, independence, autonomy, challenge, and risk-taking. Recent studies by psychologists have indicated that such terms are more characteristic of "masculine" sex role stereotypes, and are associated by many mental health professionals with better mental health and better social adjustment.[3] However, the practitioner role is unique in that it attempts to combine greater skills in caring, listening, and helping (so-called "feminine" skills) with the acquisition of initiative, independence, and assertiveness, characteristics which are stereotypic of the "masculine" role. We believed it would be both significant and theoretically important if it could be demonstrated that such characteristics are, to a great extent, a function of how work roles are defined for women, and that they relate to life satisfaction and personal and career development.

Research Plan

During the three years of the training for which we have data, 134 maternity and pediatric practitioners were trained in 6-month continuing education programs. Clinical work was with physician preceptors. In addition, entry level research data was obtained from 25 baccalaureate and 35 graduate students who were included in the academic training program during this period of time. This unusual sample provided a broad spectrum of age, educational, and life-experience backgrounds to draw upon.

A 5-year research program was planned, with data gathered on six separate training groups. Parallel data was obtained from four of these groups; the first two groups were used for pilot studies. Each group was studied at four periods: at entry, at the end of training, at 6 months after training and at 15 months after training.

This four-stage method of data gathering permitted both longitudinal and cross-sectional analyses. In the cross-sectional approach, we compared different groups (i.e., diploma nurses versus graduate nurses) at identical points in their practitioner training and role transition cycle, to see if there are differences between these groups. In the longitudinal approach, we compared each student with her own scores at three successive points in her work career. Since measurements were made for each training group several times over a 2-year period, we were able to measure both the short-term and long-term effects of training.

Approximately 12.6% of the Continuing Education population was non-Caucasian. Three of the students were men.[4] Fifty-eight percent were married; 52% had AA or diploma degrees; 47% had baccalaureate degrees; 9% had masters. The median age was 27.5; the average age was 32.6.

Initially the responses and scores of the maternity and pediatric students were analyzed separately, but as time went on few significant differences appeared, and the responses were then combined. Continuous checks were run to make sure differences did not appear, but it became apparent that the two groups could be considered as one for most practical purposes.

Measures

Several standard personality tests were used. The Adjective Check List[4] contains 300 adjectives and the respondent checks those which are self-descriptive. Twenty-four scales can be scored for this test. In addition four factors which had been derived in other studies were used as summary factors. The California Personality Inventory (CPI)[5] contains 480 true-false items which produce a number of scales indicative of interpersonal behavior. Four standard factors which commonly occur were also used. The Personal Orientation Inventory[6] is a measure of self-actualization. One of its major scales measures inner-directedness, the extent to which a person is guided by internal motivations rather than external influences. The Loevinger Sentence Completion Test contains 36 incomplete sentences which are scored by trained scorers to indicate several different levels of ego development. The Rotter Internal-External Locus of Control test[8] measures general expectations of being reinforced for exerting control over self and events. The internally-controlled individual believes reinforcement follows her attempts to influence events. She feels more in control of her own destiny.

Several measures were devised for special needs of the project. These included a brief three-item scale of assertiveness and a six-item scale of self-reliance. An extensive background data form was used to gather information on demographic factors, parental values, childhood environment, and child-rearing experiences.

Practitioner competencies were measured with the White Competency Inventory, a list of nurse practitioner skills which the students used to report which skills they felt competent in. There were four areas of competency: patient counseling and rapport, staff relationships, physician relationships, and current role satisfaction. These were summed for a total nurse practitioner competency score.

Two questionnaires were mailed out as part of the follow-up studies. One had questions regarding employment and the work setting; the other asked about the practitioner's response to the program and the field.

The initial testing was done at the University in a group setting before each training group started their program. The final follow-up testing was also done at the University. Each group was invited back approximately 15 months after completion of their training for a special day of practitioner information, meetings with the faculty, a program, and testing using the instruments they had filled out two years previously.

Interviews were conducted at the end of the training program, with semi-structured questions; they lasted 20-40 minutes.

The flow sheet below indicates what data was collected and when the competency measures and personality tests were used. Additional description of the tests may be found in Appendix B.

Beginning of Training (Entry-Level) Period 1

Personality Measures:	Adjective Check List California Psychological Inventory Personal Orientation Inventory Measures of Assertion and Self-Reliance Rotter Internal-External Control Score Loevinger Ego Development Sentence Completion Test
Competencies:	White Competency Inventory

End of Training (24 Weeks) Period 2

Personal Interview (30 minutes)
Adjective Check List
Faculty Ratings
Background Data Sheet
White Competency Inventory
Changes in Nurse Practitioner Role

Six Months After Training Period 3

Description of Work Setting
White Competency Inventory

Fifteen-Month Follow-up Period 4

Personality Measures: Adjective Check List
California Psychological Inventory
Personal Orientation Inventory
Measures of Assertion and Self-Reliance
Rotter Internal-External Control Score
Loevinger Ego Development Sentence Completion Test

Competencies: White Competency Inventory
Changes in Nurse Practitioner Role

Work Setting: Description of Work Setting
Follow-up Questionnaire

Summary Research Questions

We wanted to find out the entering characteristics of successful practitioners, and what factors contributed to their competence and commitment. The following questions summarize the areas we were most interested in.

1. Are successful nurse practitioners characterized by certain special personality characteristics, or do individuals with varied personality backgrounds fit into the practitioner role?

2. How do different educational levels affect role acceptance and performance?

3. What effect does prior level of career development have upon acceptance of the new role?

4. How do maturity, age, and developmental level affect role reorientation?

5. What aspects of performance and self-concept do committed nurse practitioners believe they have

changed most in? What are the characteristics of the successful nurse practitioner?

6. How important is the placement of the practitioner in a supportive agency or job after training?

7. What are the implications for policies and for future training programs?

The following chapters will summarize in detail these questions, the methods used to answer them, and the findings which resulted. A final chapter will integrate the results and discuss some of their implications for training, policy, and future research.

Initially we will discuss how the students evaluated the program immediately after their training, and then two years later. We will then look at the personality characteristics of students of different educational backgrounds and age. We will test some ideas about what combinations of personality do best, and present a typology empirically derived from the sample.

Finally, we will examine how the practitioners changed, who became competent and committed, and how the work setting affected them.

Chapter 1 - Notes

[1] Erikson, Erik H., "Identity and the Life Cycle," Psychological Issues, 1939, Vol. I, 1; White, Robert W., "Ego and Reality in Psychoanalytic Theory," Psychological Issues, III, 3.

[2] Davis, A.J., "Self-Concept, Occupational Role Expectations and Occupational Choice in Nursing and Social Work." Nursing Research, 1976, 18, 55-59. Some later studies suggest that both work experience and contemporary changes in women's roles may result in changing personality profiles. See Stephen Reich and Andrew Geller, "Self-Image of Nurses," Psychological Reports, 1976, 39, 401-402.

[3] Broverman, I.K., Broverman, D.M., Clarkson, F.E., Rosenkrantz, P., and Vogel, S.R., "Sex Role Stereotypes and Clinical Judgments of Mental Health," Journal of Consulting Psychology, 1970, 34, 1-7.

[4] In the analyses which follow, both men and women are included in reports of student evaluations and characteristics of entering students. However, the analyses of personality characteristics and outcome measures are on women only, since the number of males was too small to analyze separately.

[5] Gough, H.G., and Heilbrun, A.B., Jr., The Adjective Check List Manual, Palo Alto: Consulting Psychologists Press, 1965.

[6] Gough, H.G., CPI Manual, Palo Alto: Consulting Psychologists Press, 1957.

[7] Shostrom, Everett L., Personal Orientation Manual, San Diego: Educational and Industrial Testing Service, 1966.

[8] The scale may be found in Rotter, J.B., "Generalized Expectancies for Internal versus External Control of Reinforcement," Psychological Monographs, 1966, 80 (Whole No. 609).

[9] A more complete description of the original training project may be found in Continuing Education for Maternal Child Nurse Associates/Practitioners: Final Report, Department of Family Health Care Nursing, October 1976.

Chapter 2

STUDENT EVALUATION OF TRAINING[1]

Questions: How did students evaluate the training program? What motivated them? What satisfactions did they hope to find? What was most stressful? What were the major problems encountered in such a training program?

The extent to which an educational program influences its graduates is a critical and often neglected issue. In many nurse practitioner programs, typical evaluation questions have centered on performance in practice and on the quality of care provided by practitioners. These are significant and socially important areas of concern, and the results of such evaluations have generally been positive. They suggest that nurse practitioners can change the quality of health care.

An equally important consideration is that of career satisfaction in nursing. The high rate of withdrawal, turnover, and frustration in nursing is attested to by national statistics which are startling: over 50% of graduate nurses are fully or partially inactive. As Sadler, Sadler and Bliss comment: "Nursing basically suffers from a lack of sufficiently rewarding conditions... We could not have developed a more diabolical approach to frustrating the individual nurse than the present utilization patterns we employ."[2]

The growth of nurse practitioner programs has been one response to the need to create a more viable health care system by retaining individuals who were attracted to and entered the profession initially. We know that many nurses are frustrated by the many non-nursing functions they are required to assume[3] and that there is widespread interest in enhancing and redefining the roles of nurses. Does greater depth of nursing knowledge and enlarged competence in complex clinical situations lead, as has been suggested, to increased nurse satisfaction which might in turn lead to better morale and less severe personnel shortages?

National commissions have emphasized in their reports the importance of experimentation with different conceptions of job enlargement, and evaluation of the effectiveness of these new roles. In this section, we will examine how the program for maternity and pediatric practitioners was evaluated by the nurses who completed their training in it, noting especially their motivation for entering the program, the personal changes they experienced during the process, and their attitudes about their nursing careers afterward.

The Interviews

At the end of the 6-month training period, interviews were held with five of the six groups (the interviewer was not with the project in time to interview the first group) which included 111 women and 3 men, a total of 114 subjects. Two individuals failed to have interviews. It was quickly apparent that the last week of the training period was not necessarily the best time to evaluate it. Many of the participants were very tired. Others felt a little anxious about their ability, although confident that this anxiety would disappear with some experience. Since two later follow-up periods were planned, one at 6 months after completion and one at 15 months, more complete evaluation and examination of change was planned with the material gathered at those times. Here we will describe how the participants felt at the completion of the program.

The interviews were conducted by the same person each time, and consisted of a short series of focused questions (see Appendix A). Interviews varied between 20 and 40 minutes in length. The interviews were tape recorded, typescripts were made, and the responses coded.

All but three of the practitioner students were women. The median age was 29, but there was a wide range of ages. Forty-three participants were 27 years or under; 48 were between 28 and 34 years of age; and 43 were over 34 years old. The earlier groups were older; as successive groups came into the program, the average was younger. The last two groups had no students over 40 years of age. The oldest trainee was 58 when she entered the program. Only two students failed to complete the program.

Of those interviewed, 8 had master's degrees, while 49 had baccalaureate degrees of some nature. The rest (56) had diplomas in nursing or AA degrees.

There were equal numbers in the maternity and the pediatric practitioner programs. Somewhat surprisingly there were only minor differences in their responses, so summaries will be given on the group as a whole. When percentages are given, they will represent percentages of those answering the questions. A general summary may be found in Table 2-1.

TABLE 2-1

Summary of Student Evaluations of UCSF
Pediatric and Maternity Nurse Practitioner Programs

Topics	Frequency N=114	(%)
Evaluation of Programs		
Disappointed	14	12
Noncommittal	2	2
Worthwhile	41	36
Outstanding	57	50

Topics	Frequency N=114	(%)
Attitude Toward Faculty (N=72)		
Had problem	4	6
Occasional problems	3	4
Most were good	21	29
Outstanding	44	61
Previous Career Satisfaction		
Never found niche	32	28
Found it	21	18
Found it, but grew away	59	52
Disliked nursing	2	2
Sources of Previous Job Satisfaction		
Like people	55	48
Responsibility	30	26
Autonomy	17	15
Motives for Coming to Program		
More direct care of patients	70	61
Wanted new skills, training	62	54
Lack of challenge	54	47
Want more independence	32	28
Want more responsibility	27	24
Want more intellectual stimulation	27	24
Encouraged by others	27	24
Personal Sense of Change		
Very enthusiastic	29	25
Positive change	57	50
No change	16	14
Discouraged	6	5
How Practitioners Changed		
Self-confidence	68	60
Skills	51	45
Intellectual challenge met	45	39
Personal integration	42	37
Assertive	28	25
Independent	22	19
Communicate better	20	18
Plan higher education	18	16
Change in Personal Relationships		
Unchanged	48	42
Better	29	25
Changing	14	12
Worse	5	4

Topics	Frequency N=114	(%)
Nursing Identity		
Not mentioned	30	26
Reaffirmed	45	39
Aware new options in nursing	39	34
Lack nurse identity	2	2
Stress of Program		
Very stressful	44	39
Some stress	41	36
Only enthusiasm	4	4
No mention of stress	3	3
Personal growth despite stress	65	57
Sources of Stress		
Anxiety about adequacy	60	67
Rushed; no private life	36	32
New awareness; growth	36	32
Cut off from other roles	15	13
Inexperience	5	4
Criticisms of the Program		
More clinical assessment	68	60
Better clinical assessment	58	51
Critical of communications	40	35
Not individualized enough	30	32
Critical of roles class	19	17
Clinical adapted to NP use	12	11
Faculty unresponsive to criticism	15	13
More real-life community orientation	13	11
Need more discussion of preceptor problems	11	10
Too diverse group	6	5
Need employment skills	5	4
More depth on special topics	6	5
More joint maternity-pediatric classes	5	4
Needed more support and feedback	3	3

How Did the Students Like the Program?

More than 85% of the students described the program as "outstanding" or "very worthwhile." Twelve percent were disappointed, or felt it did not meet their needs. Those in the work-study program (who had jobs and did their clinical work in their job context) were slightly more apt to be disappointed with the program. There was also a slight, but non-significant tendency for the less educated to like the program more.

Of those who mentioned the faculty, 90% described them as "good" or "outstanding" (over 61% described them as outstanding). Only seven people spoke of having problems with more than one or two faculty members.

Thus satisfaction with the program was high. There were of course problems; students were frank in discussing them. These will be discussed in a subsequent context.

What Perspective on Work Experience Do Students Bring Into the Program With Them?

During the planning stages of the program, there was speculation about the degree of previous career satisfaction that the practitioner students might have experienced. Were they nurses who were malcontents, individuals who had never liked nursing? Or were they persons who had simply grown in their professional roles, and no longer had a sense of fit with their previous positions? Still another suggestion was that the practitioner role would most appeal to people who enjoyed their work in nursing, yet wanted new skills, better education and awareness of new approaches in the field.

Although it proved difficult for the respondents to characterize their previous sense of satisfaction it was possible to code their responses as to whether they had never found their niche in nursing; had found it and liked it, or had found it and grown away from it. Seventy percent of the students described themselves as having found their niche in nursing, but 50% of the total also felt they had now grown away, or had found themselves ready for something new. Twenty-eight percent said that they felt they had never found their niche in nursing. The latter were more likely to be younger, in maternity, and more highly educated. It may simply be that they lacked experience in the field and did not yet know where they fitted. Those over 30 years old were more apt to have found work they enjoyed at some point, while those under 30 were likely to have never found their niche in nursing.

Perhaps most interesting is the large group who liked nursing and enjoyed their work, but now felt that they were ready for something new. Their hope that the new role would supply the "something new" they were looking for seemed to be one of the major reasons for their interest in practitioner training. Among those who mentioned what they had liked in their previous jobs, the most frequent response concerned working with patients (about half the sample mentioned this). A second source of satisfaction were the responsibilities they had been given; 26% of the practitioner students mentioned this. Another 15% stressed the importance of independence and autonomy in their jobs as a source of previous satisfaction.

When asked what they hadn't liked in their previous jobs as well as why they had changed at this particular time, the answers were quite consistent. A high percentage (61%) indicated they wanted to work more with patients or wanted to give more direct care, more comprehensive care, and had not been able to do so in their previous position. Almost as high in importance was the need for training or new skills in order to do the type of job or give the kind of care that they wanted to do. Fifty-four percent of the practitioners stressed the importance of this motive in their decision to come into the program. Almost as large a group (47%) mentioned the lack of challenge they felt in their previous jobs. They felt they were not growing, were stagnating, had lost interest. They hoped that the new role and the new approach to nursing might restore the enjoyment and satisfaction they had previously found in their work.

> I'm in family planning now, and I think I've found my niche doing that. Before I had grown away from nursing and was seriously thinking of going into another field. But I didn't like administration, I found that out. Not everybody realizes it until they get there. In the program I am in now, I'm in a team and I enjoy it. We're really getting health services to people who need it.
>
> I really like pediatrics. But as far as being able to get into it a whole lot, and feel like I've really done something worthwhile and satisfying to myself, I did't find that. I ordered supplies, answered the phones, made appointments, showed people in and out of rooms, and all the nursing duties. I wasn't totally dissatisfied, but it left a lot to be desired.
>
> I've always been interested in maternity nursing, but it wasn't stimulating enough. The patients were my only input. It was difficult trying to get new programs going, trying to get in-service training. There was no provision to grow, to have a sense of stimulation.

A separate group, 28%, were especially drawn by the promise of greater independence in the new role. They liked autonomy in their work, and wanted to work somewhat independently of physicians, having their own areas of expertise. Whatever the reasons, independence was important to them.

Three other motives seemed equally important, and were each mentioned by 24% of those interviewed. Some respondents wanted more intellectual stimulation; they liked learning new things, and had wanted to return to school; they felt at home in a learning environment and preferred to constantly add new learning to their lives. Others were drawn by the responsibility promised by the new role. They reported that they enjoyed responsibility, had often sought roles of increasing responsibility, and had frequently found that just being a staff nurse did not meet their needs.

> I never was completely satisfied. I felt there were things that I wanted to do that I wasn't able to do at the level I was. I felt I had capabilities for doing more things, but I needed additional training for doing those kinds of things.

Those who lacked a baccalaureate degree in nursing often found that many doors were closed to them for advancement. The felt at a dead-end and hoped that the practitioner role would open a new path for them. Still another segment of the group was taking the new training primarily because someone had encouraged them to do so. Sometimes a physician for whom they worked had heard of the new role and suggested they look into it; sometimes another nurse with practitioner training encouraged them to think about whether the new skills might not be suitable for their needs.

How Do Practitioners Change During the Program?

Those familiar with nurse practitioner programs know that there is an excitement about them which goes far beyond the learning of new skills. Many students feel an inner change which is impressive in its outcome, but which may create turmoil while it is being achieved. The practitioner role, in its capacity to cause inner change, is very powerful. The role creates new interpersonal relationships, and establishes new functional tasks for the practitioner. Intellectual growth is but one of its aspects, and we sought to understand its more elusive qualities.

When we asked the students whether they had changed any, the most common response was a very positive one. Of the 75% who spoke of the changes they had experienced, 25% were extremely warm and enthusiastic, using such phrases as "the greatest experience in my life." Others (50%) mentioned some problems as well as positive change, but overall their general sense was that they had genuinely changed in a positive direction. [We are referring here to an inner sense of change, not just to having learned something new.] Fourteen percent experienced no sense of having changed; five percent were depressed or discouraged or felt less than confident than when they came. Most of these believed this was a temporary state, one they would get over as soon as they were rested or had a change to become more skillful. Three individuals either left the field or felt they were frustrated in the program; however, they completed their training.

> I feel differently about nursing. I see many more possibilities for nurses now, much more flexibility, not just in terms of jobs but in terms of roles. I'm more pleased about being a nurse than I was before. There have been times when I felt pretty much locked in and maybe a little sorry I didn't go to medical school or do something else that gave me more independence. But I really think that's changing. I'm suddenly seeing my career not just as a sideline as I did before but perhaps as something that I'll have to do and want to do for the rest of my life.
>
> It's allowed me to know better what my limits are and what I want my limits to be. I've grown I'm sure because I wouldn't even have stuck it out if I felt I wasn't growing in the process of being here. I've learned more about myself in general, what I'm capable of doing and what I want to do. I feel very assured that I want to be a nurse and that I want to continue expanding my role as a nurse as much as possible. I like seeing some education along with working--I'd like more balance between the two.

Most people, in addition to describing a sense of personal change, were able to discuss in some detail how they had changed. Most frequently (60%) they changed in self-confidence or self-esteem. Many felt much more assured, much more confident about their ability and about how to conduct themselves as practitioners. Frequently this confidence extended to other areas as well. For example, 45% mentioned that they had changed in skills. [It should be remembered that these responses concern only areas which were spontaneously mentioned; subjects could mention more than one area if they wished.]

> I think I have more confidence in my ability to accomplish things as far as changes go. Since I finished the program, what I say has more weight. It's helped the attitudes of physicians because we've been able to gradually raise the level of nursing care by things that I've learned. So I don't feel so hesitant about expressing myself in certain areas because I feel I have the background and the knowledge to express those feelings and opinions and that they are valid.

> I feel now that I have more data that I can use in making judgments. It's not so intuitive. I have sound physical findings to back up my judgment of why a child is really ill. In some areas I now feel more confident, but in some areas of physical assessment, less confident.

> I think the greatest changes have been professional in the area of competence. I think I was competent previous to the program, but hadn't enough support or belief in myself. Now with learning new skills and doing new things I realize I have more confidence in myself. I feel stronger, more able to make firm decisions. I was trained to be very wishy-washy.

Quite a few (39%) spoke of the importance of meeting the intellectual challenge of the experience. Often they had never attended a university before, or had not been back to college for several years, and found it a bit frightening to come to a university program. That they were able to cope with it, and often found great delight in reading books again, or in gaining a depth of knowledge in difficult areas was a source of great satisfaction and pleasure.

> Just getting here was a big deal. It was also very stressful; I didn't have much experience in this field, so I had to learn not only the role of practitioner, but also a lot of content. But I loved being back in school; I've learned a lot.

> I feel much more comfortable in my role. I feel that I've learned a lot and that this program has helped me to put everything together. Basically I just feel more comfortable and more confident.

> I've gained a more independent feeling in the role, and even increased my interest in continuing to learn, to continue educating myself in this area.

> ...Before I never had time to read and was tired. Now I can't read enough. I feel surer about what I say to mothers now, but I'm also not ashamed to say I don't know, because I feel I do know a great deal. I also feel fairly competent about talking to physicians now. I think I feel better about being a nurse.

Almost as many (37%) spoke of the importance of their own personal growth. They felt more together, or had been able to clarify their personal goals in helpful ways. Some said they now made decisions more easily and had a sense of direction which they had previously lacked.

> I feel a lot better about myself. I'm not so preoccupied with my own problems. I'm looking more at other people and at relationships with other people. I see them in a different way ...I feel more independent now. I've learned to relate to new people and to people with new ideas. And I can be more tolerant about myself.

> The whole experience has been overwhelming, it's been fantastic. It's allowed me to grow and do a lot of things at a much faster rate than I was going when I entered. A lot of ideas were new to me, so that my head was constantly thinking and hashing and rehashing things and wondering if I fit into the pattern of the University. The program has at times sapped all the energy I had. I absolutely wondered what I was doing in it, and whether I was worthwhile or important to anyone other than my close friends and family. As a result, I learned more about myself, what I thought of myself as worth, what these new ideas meant to me. I was glad I had the support system of instructors and other people going through the same experience with me. It can be a heavy trip...

Some now felt they were more independent (19%) and assertive (25%). They took more responsibility for themselves, and said they expressed their feelings more forthrightly. Eighteen percent believed they communicated better, while 16% now planned or wanted to further their higher education [It was difficult to ascertain how many had thought of this earlier. That they mentioned it in response to a question asking how they had changed would seem to indicate that it was a new ambition.] Twelve percent said they were more tolerant, and 11% said they were now more aware of women's problems than they had been previously. Almost all of the latter two groups were maternity students.

We also asked if their personal relationships had changed any since they entered the program. Using an overall rating of change, a large number of people were judged to have not changed (42%). Of those who seemed to have changed in more than a minor way, 25% had changed for the better, 12% said things were changing, but they weren't yet sure how they would work out, and 4% seemed to have had personal relationships which worsened. Most of the change was experienced with spouses or children. In four cases, relationships with the spouse seemed to be worse. In 23 cases it was better. In 12 cases change of some nature was going on, but the outcome was not clear.

> I met a lot of new women in the program I was able to relate to; before I hadn't met that many people that I was close to, and I think my husband and I would burden each other with expecting each other to meet all the needs we had. By meeting other people and sharing their experiences I was able to relieve him of some of these burdens. And by increasing my own self-confidence and feeling better about myself, I also improved our relationship.
>
> For the first time I've really taken my career seriously. Continuing my education for my career has a high priority now. Before I wasn't getting what I wanted out of my job, so I think I turned to personal relationships. Now I am more focused as far as my values and goals go. I get a lot more respect from people who are close to me because I'm not doing so much complaining. I feel I'm doing something more constructive, and they see I'm doing something constructive so I get a lot more support.

In the interview 74% spontaneously noted that they were now more excited about their nursing career than they had been before, and now had a sense of new options an possibilities they had not felt previously. For some this came none too soon, since several had previously concluded that they were not cut out to be nurses, or were tired of what they were doing, and felt there were no other alternatives. Their reaffirmation of their identities as nurses is one of the most striking results of the interviews.

> I feel stronger. I feel capable. I guess the word I like is "reinforced." Having seen other nurses and the models the faculty has given us has reinforced an image I like of what I'm doing. I know now that nurses can make contributions, and I've not always been sure about that.

Coping With the Stresses of the Program

Satisfactory though it might be in the long run, many did not find the nurse practitioner program an easy one. It was difficult, demanding, and frequently stressful. New skills had to be learned and their successful performance was vital to the welfare of the patient. New topics had to be mastered, and careful feedback from the faculty showed each student how well he or she was mastering the material. There was little time for family or friends in the very intensive nature of the progam, and for those who took such relationships seriously, there were often costs to be paid. Thus it was not surprising that three-quarters of the students in the program described it as difficult and stressful, and occasionally admitted they felt discouraged. Of these, 39% described it as very stressful. Some admitted they had thought of quitting at one time. Often they decided not to only after talking to others about their sense of frustration and self-doubt. Most of those who experienced stress (57%) also reported a simultaneous sense of growth at the same time. Such individuals would describe their discouragement, but would add that it had really been worthwhile in spite of the disheartening problems. They seemed to derive a feeling of self-worth from mastering the difficulties.

> I found the program stressful but gratifying. Now I'm really proud that I managed to get through it and I feel very good about the things I learned. I feel that they have been what I wanted, which is something I wasn't sure of at the beginning. I have some very good feelings about it, despite disagreements with some things that went on. And there have been times I wasn't sure I was going to make it.
>
> I've learned a tremendous amount and it's been excellent. But it's been a big sacrifice because it is very difficult to work and attend this course at the same time. You're giving up a lot --you're giving up your life for six months.
>
> I feel better about myself. I've proved that at my age I had the guts to take a leave of absence and do what I did. What I have been through the last six months I wouldn't put off on a donkey. It was hard. (She mentions physical problems, transportation difficulties, job uncertainties, financial stresses.) The program has not been stressful--I've enjoyed every minute of it. But I'm grateful, with all my problems, to have gotten through with it.

Much of the stress stemmed from concern about adequacy in skills or in meeting patient's needs. Trainees were often fearful about making a mistake or taking too much time or overlooking something important.

> The main thing I've noticed is some depression as far as the role change. But that's because it's a new role, not legal yet, and because people don't know what it is yet...It's just sort of a general depression--it's been all the way through...I guess maybe you can call some of it fear, in a sense, because I don't want to miss something, and I feel my skills are still so new. I guess I'm afraid I might miss something I shouldn't be missing.

Emotional turmoil was frequent; 67% described a degree of anxiety which was stressful.

> I really feel a commitment to nursing I didn't have before. It was hard at first. I went from being a very independent public health nurse to a totally dependent student. I just kind of forgot everything I knew and acted kind of mixed-up until the end of the first two months. Then all of a sudden things changed...I began to feel "I can do it. I've got the background, and I'm finally learning the physical exam." The physical exam was like a mountain to me. Being able to feel competent about doing that was gigantic. I really am amazed. Sometimes I think it's not me. I'm standing over there looking at me.

Two other aspects were also stressful (each 32%). Some found the continual rushing and lack of time for their private lives very difficult; many were not used to the constant pressure of assignments and reading. Still others had a new sense of awareness opened up; they experienced new needs and inner deficiencies which led to anxiety and stress. Only a small number (4%) felt that their sense of stress was due to lack in their previous training or experience.

> I haven't had much of an outside life while I've been in the program. It's been extremely stressful. I feel that I have had pressures put on me that were too much to ask people to bear. I've never before experienced having practically every minute of my life scheduled, even on weekends. But it was necessary with my studying and papers. It is hard to be a mother, yet keep up with your job and help families the way you are supposed to. A woman or man with a family needs more support during this period. I'm anxious to get back to the mainstream of life, because I have social needs that haven't been met while I was in the program.

Criticism of the Program

It is obvious that for most participants this was a challenging and satisfactory experience. In the interest of improving the program we asked what they would like to see changed, and what suggestions they had for the faculty and others involved.

The most frequent suggestion and source of dissatisfaction was the clinical part of the program. It was widely felt that more time was needed for the clinical and physical health assessment, and that a 24-week training period was too short to learn all that one needed to know or to achieve a satisfactory level of confidence. Sixty percent mentioned this, while 51% said that the clinical experience was not as helpful as they would have liked. [As a result, the program was eventually lengthened to one year.] Some said they needed to practice more on each other; others just wanted more practice of any type. Still others felt that better timing was needed--that they did not see patients to use the skill at the time they needed the practice.

> I think the main lack for me was probably clinical experience. I would have liked to have more time in class to practice, doing more clinical practicing with exams. Just talking about little things that people who have been working for years have picked up. I could have used more time on fitting diaphragms.
>
> I would have liked to see the doctors' lectures followed by one of the instructors in the program because they speak our language and doctors don't.

The diversity of education and experience in backgrounds posed problems in presenting class material, particularly in the area of the psychosocial content and in communications. Those with associate or diploma degrees were often most enthusiastic. A third of the group felt the program was not advanced enough. There were comments to the effect that it was too superficial, below their intellectual level, not geared enough to individual needs.

> Overall the program was really well put together. But maybe some time could have been better spent. For example, a lot of us had interviewing skills, and we know a lot about child abuse and high-risk families of infants; it might have been more helpful to be able to use that information in a setting that helped us learn how to deal with those families and talk to them.

This diversity of backgrounds was also reflected in reactions to the roles class. About 17% said it was not relevant, was repetitious, or that they would rather put their time elsewhere. On the other hand, many wanted more role playing of problems they might encounter as nurse practitioners, in dealing with physicians or patients.

> If we could have had more role playing...the one time we did it in roles class it was a really good learning experience.

> I would have liked more role playing, such as practicing real situations where you prescribe birth control pills. I would rather do my experimenting and make my mistakes with my classmates than with the patients.

A variety of other criticisms were made, usually by less than 10% of the group. A few wanted more discussion of special topics, such as adolescence, women's problems, nutrition, hormonal changes, and later life. Some wanted more discussion of preceptor problems. Six people thought the groups were too diverse, while five individuals wanted more maternity-pediatric collaboration or joint classes. Thirteen percent said that the faculty did not listen enough to their suggestions and criticisms, or if they listened, did not respond sufficiently enough. Some felt there should have been some place to ventilate feelings, and discuss anger in a more neutral environment. An equal number (11%) would have liked the material to be more related to real-life or community needs. They felt it was too academic. Others were critical because course content seemed primarily relevant to middle-class values only.

A small group felt that the nurse practitioner should have work experience before entering the program. Others would have liked more help in getting employment or in learning skills. Very few (only three) were critical of the program for not giving them sufficient support or helpful feedback. This seemed to be an area of satisfaction for most practitioners.

Summary

Students in the nurse practitioner program evaluated their education and training very favorably. The program seemed to attract nurses who were looking for more challenge in their work, new skills to work more effectively with patients, and increased opportunity for responsibility and autonomy. It also attracted those with limited career options.

The program was described by the trainees as stressful, but growth promoting. In addition to learning many new clinical and counseling skills, the values and outlooks of the practitioners were profoundly affected as well. Many experienced a sense of greater self-confidence and self-esteem. Particularly outstanding was the strengthening of their identity as nurses, and their renewed involvement in their nursing careers.

Student criticisms highlighted the difficulties of gaining clinical expertise in such a short period, the vicissitudes of meeting the educational expectations of individuals with diverse experiences, backgrounds and interests, and the importance of relating both clinical and counseling material to real-life situations and exigencies.

The findings suggest that the expanded role in nursing promises to be satisfying for many individuals who seek to grow professionally and personally.

Chapter 2 - Notes

[1] An earlier version of this chapter was published as Students Evaluate A Nurse Practitioner Program, University of California, San Francisco, Department of Family Health Care Nursing, 1976.

[2] Sadler, A.M,, Jr., Sadler, B.L., Bliss, Ann A., The Physician's Assistant --Today and Tomorrow, Cambridge, Massachusetts, Ballinger Publishing Company, 1975 (second edition), 71-72.

[3] Christman, Luther P. and Jelinek, R.S., "Old Patterns Waste Half the Nursing Hours," Modern Hospital, 8:79, January 1967.

Chapter 3

TWO YEARS LATER: PRACTITIONERS DESCRIBE THEIR WORK AND EXPERIENCES

Questions: What were the practitioners doing after a year and a half in the field? What were the major problems graduates encountered? What were the major sources of satisfaction? How did they look back on their training?

As each of the practitioner groups came back for their follow-up testing, we held a round-table discussion of what they were doing and what their lives were like. The reports were fascinating and the practitioners were interested in hearing the details of each other's jobs. Many were in new situations, and in demanding health care settings. Some had returned to old positions planning to make changes, and there was interest in learning what had happened. A few were discouraged and seeking new answers for themselves.

In an effort to record and compare these anecdotal reports, a brief questionnaire was prepared which was sent to previous groups, and included in the follow-up of the remaining groups. A total of 100 responses were received out of a potential 134, which represents a response rate of 75%. We were able to ascertain that those who failed to send in a response were employed in roughly the same proportions as those who did fill out the questionnaire, thus increasing confidence in the representativeness and validity of the replies.

In addition, a worksetting questionnaire was included at both the 6-month and 15-month follow-up for those employed as practitioners. They were asked about specific aspects of their jobs, such as number of hours worked, supportiveness of other employees, colleagues and administrators, and their plans to continue with their present employers.

Two circumstances must be kept in mind in interpreting the findings from these questionnaires, each having to do with the difficulty of finding satisfactory employment. Practitioner trainees were not required to have a potential job as a condition for entering the program. Consequently, many had a few anxious days or weeks at the program's conclusion as they engaged in the unfamiliar ritual of finding an institution or physician who knew about practitioners and wanted to hire one. Initial expectations and jobs were not always satisfactory, and practitioners had been encouraged by the faculty to leave situations which failed to utilize their newly-acquired skills. Many physicians, supervisors and administrative officials proved to be woefully ignorant about the needs and potentials of practitioners, so that satisfactory employment sometimes required repeated educational efforts, as well as preparation of job descriptions, conferences, proposals and discussions. The legal position of practitioners was not clear in California in those early days, and some hospitals that had promised practitioner positions to long-time employees were uncertain about their legal responsibility and failed to create the new staff positions that had been anticipated. In addition, the Bay Area and San Francisco are popular places to work so that many people, once attracted, were reluctant to leave. As more practitioners became trained, employment became more difficult to obtain, particularly for the pediatric practitioners. Thus, some comments concerning satisfaction with being a practitioner and with the training reflected implicit hopes and fears concerning jobs and employment more than the actual educational experience or the new role.

Employment

As indicated in Table 3-1, approximately 71% of the trainees were employed or utilizing their skills as nurse practitioners at the final follow-up. Fifty-three percent of these were full-time, while 18% were part-time. (Many of these part-time individuals were employed full-time, but only allowed to conduct their work as practitioners less than 50% of the time.) Sixteen percent were still staff nurses or administrators such as head nurses. The remainder were either college teachers (2%), obtaining additional education (3%), at home because of children or family demands such as moving or traveling (6%), or temporarily unemployed (2%). Everything considered, these seem to reflect very high and commendable employment figures for the practitioners.

TABLE 3-1

Employment of Practitioner Trainees at the 15-Month Follow-up

Employment	Total Group Frequency	(%)	Questionnaire Sample	(%)
Nurse Practitioner, full-time	70	53	51	51
Nurse Practitioner, part-time	24	18	18	18
RN Employment, full-time	16	12	12	12
RN Employment, part-time	5	4	4	4
Other Activities				
Additional college education	4	3	4	4
Teaching - college level	3	2	2	2
Family or travel	8	6	4	4
Temporarily unemployed	3	2	2	2
TOTAL	133[1]	100	100	100

[1] One student was unavailable.

In addition, the questionaire respondents were asked if they enjoyed their work. Ninety percent answered "Yes," although 26% added some qualifications to this. Only 6% said they did not enjoy their work.

Evaluations

It will be recalled from a previous chapter that enthusiasm for the nurse practitioner role was high at the end of training, but that anxiety, fatigue, and confusion were also present. Consequently, it was comforting to note that at the final follow-up, this ambivalence had almost disappeared, and was replaced by strong enthusiasm.

Table 3-2

Responses to "Was Your Training and Education as a Nurse Practitioner Worthwhile to You?

Response	(%)	
Yes!!	33	87%
Yes	37	
Yes (qualified answer)	17	
No (some disappointment mentioned)	5	
No response	8	

The most interesting responses came in answer to two questions asking how the nurse practitioner training had been helpful "professionally" and "personally." There was a great deal of overlap in the answers, but what appears clear is that self-confidence, and increased satisfaction with one's nursing career are the most prominent outcomes.

Table 3-3

Responses as to How Nurse Practitioner Training was Helpful Professionally

Response	(N=100)	(%)
Elevated career satisfaction		57
Satisfaction with work with patients		22
Increased independence, autonomy		21
Increased self-confidence, self-esteem		20
Enjoy challenge of responsibility		12
Collaborative work with physician		10

Response	(N=100)	(%)
Motivated to pursue more nursing education		10
Augmented RN responsibility		10
More respect, prestige		8
Salary improved		1

Since these were free-response answers, the respondents could indicate more than one source of satisfaction. Satisfaction with working directly with patients was obviously also important. Here is how practitioners described their feelings:

> It added to my general knowledge of maternity and gynecology. It expanded my career opportunities. It stimulated increased interest in the maternity field--I would like to go on to nurse midwifery school now. I became more aware of myself as a woman and what I can contribute to the health field.
>
> It's given me confidence in my ability to make a nursing assessment and to be of help to the patient.
>
> It has given me the extra training I needed to function in a much more exciting, challenging, and responsible role than I ever did as a nurse. It also gave the "OK" to do some things I had been doing "around the edges" of my work before.
>
> As a nurse practitioner, I'm satisfied. I was not when I was in traditional nursing.
>
> It took me out of my high-paid, rigid box and let me reach into areas I would not have thought possible.
>
> Prior to the program, I was in a slump professionally. I had not kept up on current nursing literature and books. But it renewed my interest and enthusiasm in nursing.

When we inquired how the training had been helpful personally, the answers were very similar, again pointing up the two notable gains: increased career satisfaction and increased self-confidence and competence.

Table 3-4

Responses as to How Nurse Practitioner Training was Helpful Personally

Response	(%)
Increased self-confidence, more self-aware, assertiveness	48
Enhanced perception of nursing	44
Enhanced personal relationships (family or interpersonal)	14
Greater independence	12
Job improvement; better employment	9

The following comments indicate how these new feelings not only influenced the practitioner's self-concept, but were often translated into different styles and forms of care for the patient.

> I am increasingly assertive in dealing wiht MD's, and feel good about standing up for my patients' needs. It has forced me to greater independence, to facing my feelings of inadequacy and learning how to rise about fears and take risks.
>
> The nurse practitioner movement has given me a clearer professional identity and therefore a stronger sense of self-esteem.
>
> By assuming greater responsibility for health care and having more control over my professional practice, I personally take greater satisfaction in my work, and identify positively with the profession of nursing far more than I was able to do before.

One senses a tremendous desire to have a career and professional identification one can be proud of, and a sense of genuine satisfaction that the nurse practitioner role seems to provide such fulfillment. Not all agreed, however. One person forcefully expressed a minority viewpoint:

> My main concern is that the nurse practitioner field is a dead-end. Limits on what we are able to do are imposed by the medical profession, making us still very dependent on them... They tend to use us still to do routine things they don't want to do, and don't see the dollar value of. We still have too much financial and professiona dependence on them.

Although not directly mentioned frequently, it seems fair to infer that control over one's own decisions and responsibilities contributed greatly to the enhanced professional and personal pride which many experienced.

Notably absent from the lists, or only casually mentioned, were improved salary or working conditions.

It also became apparent in the replies that there was no direct relationship between not working as a practitioner and being disappointed in the program or subsequent experiences. Many who were not employed in the practitioner role still rated their satisfaction and training very highly.

> It expanded my knowledge, but mainly it has increased my awareness of my role in health care. I see myself more as an active agent in delivering health care and am a more critical consumer. I have not made specific use of the practitioner role in my current job, however.
>
> Although I am not a practitioner in the sense of carrying responsibility for health care delivery, I consider myself a Public Health Nurse with an expanded role in the area of pediatric assessment. I am also functioning with a more educational approach, and less of a medical one than I used to.
>
> My experience has been disappointing only insofar as I am unable to work as a practitioner very often. When I am functioning as a practitioner, I find the experience to be enormously satisfying!
>
> I had planned on working more with well, normal children, and had hoped to get into a community health center, but no job was available. However, my present experience (as a Public Health Nurse screening for developmentally disabled children) is extremely valuable if such a job should open.

As can be seen in Table 3-5, other problems often stemmed from this central one, such as problems in being a non-practitioner part of the time, or fears concerning loss of skills through disuse. The problem of third-party payments was only beginning to be an issue in California among practitioners, and promised to become more prominent. A few minor comments mentioned by less than 5% of the respondents included concern that the patients seen were not diverse enough and that doctor-nurse games were still prominent.

TABLE 3-5

Disappointments Experienced by Nurse Practitioners
During 15 Months in the Field

Area Mentioned	% of Nurse Practitioners Referring to This:
None	36
Job insecurity and unemployment	38

Difficulty of dual role	8
Self-doubt	5
Concern about insurance not paying practitioners	5
Fear skills loss through lack of use	4

Comments on Training

Looking back on their training experience (Table 3-6), the practitioners still wished that there had been greater depth to the clinical experience (37%), and that it had been longer (22%). After the interviews at the end of the program, it was conjectured that they might simply be feeling anxious at the conclusion of a grueling experience. However, the depth of their feeling, even though expressed by a minority, appeared to definitely support the usefulness of a longer training program.

> I felt very insecure with the short training period. Without good physician support on the job, things might have turned out badly.
>
> Lengthen the program! Prepare us as well as the physician's assistants are prepared. We are inhibited both legally and experience [skill] wise.
>
> I feel the training was good, but should be longer. I am most concerned that continuing education should be emphasized and that people realize the program is only a small part of the training.

Other Comments: Satisfactions and Disappointments

We asked the practitioners whether they had any disappointing experiences since they had been practicing. Thirty-six percent said they could think of none.

The problem that was most salient (see Table 3-6) was employment; 38% mentioned this as an area that had or was still troubling them. This issue had also come up in comments on training in Table 3-6; 19% wanted more help with jobs. Some had not found jobs which fully utilized their training. Others had found the experience of looking for a job a rocky and difficult one. Still others learned that utilizing their new skills within their old setting was a discouraging process:

> The only disappointment I have experienced is the fact that my entire working time is not directed to practitioner work. I need more experience and resent having the added responsibility of office managing.
>
> I have not been allowed to work up to my capacity. I have persistently tried to gain recognition as a practitioner only to fail each time.

Table 3-6

Nurse Practitioner Comments About the Training Program After 15 Months Field Experience

Comments	% of Nurse Practitioners Referring to This
Course Content	N = 100
More clinical experience desired	37
Longer, more in-depth program	22
Teach more at level of group	8
More gynecology in maternity program	6
More combined maternity-pediatric skills	4
Career Assistance	
Increased information on nurse practitioner jobs	19
Provide more nurse practitioner education in form of continuing education courses	15

Summary

Even though employment was not always easy to find, more than 70% of the trainees were employed or were utilizing their skills as practitioners 2 years after they began their training.

Their enthusiasm for the practitioner role was impressive. This seemed largely due to the increased self-confidence and satisfaction with nursing as a career which resulted. They felt they now had some responsibility for and control over the quality of their patient care, and their self-esteem rose accordingly. This personal change in confidence and pride may be one of the major accomplishments of the practitioner role.

The 6-month training program was still regarded as too short, and the department subsequently lengthened it. However, the difficulties of educating others in health care to best use the talents of the practitioners remained a problem which individuals found difficult to solve.

To better understand these descriptive evaluations, the following chapters turn toward the differing psychological characteristics of the students and their influence on the outcome of training.

Chapter 4

THE EFFECT OF EDUCATIONAL BACKGROUND AND EDUCATION

Questions: How do the students chosen for the continuing education program compare to those in the academic programs, the baccalaureate and the master's program? Do students from different educational backgrounds who are in the continuing education practitioner program have differing characteristics? What influence do age and maturity have?

There is a great deal of concern among nursing professionals and other educational administrators as to what level in the educational system practitioner training should be offered. This is also a concern of administrators of federal agencies who must decide what kinds of programs to support. Should more practitioners be educated at the undergraduate level? Should such training be reserved for graduate students who are older and often more experienced? Or should it be continued as a supplementary continuing education effort, even though such programs are less often under the jurisdiction of the regular faculty?

To answer these questions we needed to know if there were any differences between practitioner students in the program and those in the regular academic baccalaureate and master's program. Did the younger students show more zest and verve? Were those of similar age but different educational backgrounds more alike or different?

The personality data which was collected came from a sample which permitted answers to these questions. In addition to the 134 students in the continuing education program, the study also included entry-level personality data on all academic students who were obtaining practitioner training as part of their longer curriculum. As noted previously, during the 3-year period, this included 25 students in the baccalaureate program and 35 students in the master's program.

The Initial Findings

Using an analysis of variance (ANOVA) we compared three groups of practitioner students: all in the continuing education (CE) program; all baccalaureate students (BS), and all in the master's program (MS). The two academic groups were studied separately because of the age differences between them. Table 4-1 presents the significant findings from the various personality tests which were administered to all students upon entry to the program. A brief explanation of each of the tests may be found in Appendix B. Non-significant differences (p.$>$.05) are not included in the tables.

Table 4-1

Personality Test Differences Among
Continuing Education Students and Academic Students

Variables	CE	BS	MS	F	p
	Mean Scores				
Age	32.6	23.8	32.1	16.2	.001
Adjective Check List (ACL)					
Personal Adjustment	51.9	47.4	53.5	3.5	.05
Dominance	54.3	60.9	55.5	3.2	.05
Nurturance	50.4	43.6	51.8	5.1	.01
Affiliation	48.3	43.9	52.0	4.1	.05
Exhibition	49.7	59.2	48.2	6.3	.01
Autonomy	52.8	60.6	52.1	4.3	.05
Aggression	51.6	58.9	49.6	5.6	.01
Abasement	46.6	36.4	48.1	7.1	.001
Deference	47.2	38.4	48.8	6.6	.01
ACL Factor 2 (Ego Assertion)	52.9	59.8	52.4	6.2	.01
CPI					
Responsibility	45.8	39.3	46.6	4.0	.05
Self-control	48.6	41.9	48.6	3.4	.05
Tolerance	54.2	47.6	55.3	4.5	.05
Communality	49.9	48.3	51.0	4.7	.01
CPI Factor 1 (Reliable Responsibles)	49.2	44.9	50.4	3.1	.05
CPI Factor 2 (Dominant Individualism)	47.8	43.1	48.2	3.6	.05
POI					
Inner-directed	53.7	57.8	52.6	3.5	.05
Rotter I-E Scale					
External locus of control	9.1	12.1	10.3	5.0	.01

Two striking findings were evident. The CE students and the MS students had very similar scores on most of the tests, and the baccalaureate students differed the most from the other two groups. They also differed in age. The CE students and MS students had a mean age of 32.6 and 31.1 years repectively, while the BS students, with a mean age of 23.8, were about eight years younger.

The BS students were characterized by an interesting pattern on the different tests. They were high on such variables as dominance, autonomy, exhibition, and aggression, which seemed to suggest an assertive, independent personality. They were low, however, in comparison to the other two groups, on traits such as personal adjustment, self-control, responsibility, and tolerance. This would seem, to suggest a more impulsive, irresponsible, self-centered collection of traits, an impression confirmed by lower scores on nurturance and affiliation.

A set of contrasting findings emerged from two measures, the POI and the Rotter Internal-External Locus of Control Score. The BS students had a higher score on the Inner-directed scale of the POI, which would seem to indicate an ability to set one's own goals and standards rather than looking to or leaning on others. However, the high score on the Rotter I-E scale was in the external direction, suggesting that although they might act autonomously, they had little sense of being in control of their own fate. Apparently, autonomy and self-direction were important to them, but difficult to achieve.

The CE and MS students, on the other hand, presented more balanced scores on both the Adjective Check List and the California Psychological Inventory. Though above average on autonomy and dominance, they were near the mean on nurturance and affiliation on the ACL. With scores on the CPI a little below the 50th percentile on responsibility and self-control, they were still each higher than the undergraduate students. Two factor scores which serve as summary measures of the tests confirmed these trends. CPI Factor 1 measured a sense of well-being and responsibility, while ACL Factor 2 measured self-confident autonomy. Both of these factors were reasonably high (around the 50th percentile) for the CE and MS students, but were almost 15 percentile points apart for the BS students, again suggesting balance and maturity for the former and impulsive, self-centered assertiveness coupled with self-confidence for the latter. The BS students also had less super ego strength, indicating more conflict with society.

It is tempting to ascribe these differenes to age or, possibly, to the maturity of the older groups. A great deal of support for a relationship to maturity is given by findings from the Loevinger Sentence Completion Test. This test[1] attempts to measure ego development, which is described by Loevinger as a "master trait" of development.

In her writings she has set forth a hierarchial model of seven stages of ego development, each stage more complex than stages earlier in the series.In general, ego development is marked by a more differentiated perception of one's self, of the social world, and of the relation of one's feelings and thoughts to those of others. At the lower *impulse-ridden* stage, the individual is at the mercy of his needs and fears retaliation. At the highest level, the *integrated* stage, the individual has reconciled his inner conflicts, and developed a feeling for paradox, as well as an appreciation of cognitive complexity. Most of the practitioner sample were nearer two intermediate stages, the *conformist* and the *conscientious*. The person at the conformist stage respects rules, thinks in stereotypes, and makes moralistic judgments. In a transitional stage between conformist and conscientious--a point where many in the sample are--there is an emerging awareness of causation, introspection, and self-criticism. Absolute guidelines are no longer so important; a process of evaluation has begun.

At the conscientious stage, inner standards, mutual concerns, and concerns for principles are more salient. The individual has more complex conceptions of the world and his actions in it.

In Table 4-2, it will be seen that most people were at the transitional and the conscientious levels. Both the CE and the MS groups had a larger percentage of their numbers in the conscientious or higher developmental levels, with the MS group having twice as many in the upper levels. The undergraduate students stood in stark contrast with almost two-thirds of their group in the transitional or lower developmental levels. Although this is a new measure whose validity is not yet well-established, the evidence it offers strongly suggests less complex development and less maturity for the younger baccalaureate students. Particularly indicated is a lack of cognitive complexity, with a tendency to see people and events in simpler, more stereotyped, and popular terms. It also indicates less ability to formulate choices which are intricate or self-critically thought through.

Table 4-2

Comparison of Continuing Education and Academic Students on the Loevinger Sentence Completion Test

Loevinger Ego Development Levels	CE	BS	MS
Preconformist and Conformist	5	2	1
Transitional	51	12	11
Conscientious	47	1	11
Postconscientious	13	2	10
	$\chi^2 = 16.9$	$p \leq .05$	

Age, Education, or Development

The differences revealed here only lead to more questions. While it is true that there are striking personality differences at various educational levels, the evidence seems suggestive that it may be due to age or maturity rather than education itself. We were fortunate in having independent measures of age and developmental level, so two-way analyses of variance (ANOVA) were run, studying the effects of education with age and education with developmental level.

Because the CE group had individuals from all three educational levels, we could compare those who had diploma or associate degrees, but varied in age, with those who had bachelor's or master's degrees, but were older than the academic students. Similar comparisons were also possible using the Loevinger test as a measure of ego development and educational level.[2]

The Personality Findings

Because of the large number of possible comparisons and significant findings (in Table 4-3), they will be summarized as simply as possible here, giving only main effects. Blank spaces in the table indicate that no significant results were found for that particular comparison. We show only the means of the factors which had a significant main effect. Since it became apparent that the academic BS students and the CE students with bachelor degrees were quite different, and that the students who had master's degrees in the CE program were different from those in the academic master's degree program, these means are reported separately.

Educational level differences were due mainly to the academic baccalaureate students, who were lower on nurturance, abasement, and deference. They had a high capacity for status, but were not as tolerant of other people. They were less socially mature, and less apt to achieve through independent work. Their high score on inner directedness may represent the "too high" score of some individuals, whom the POI test manual describes as intellectualizing and being too assertive. These results probably appear for this group and not those in the "under 28 years old" category because this group is very young (mean age is 23.4) and inexperienced. Apparently, even a few years of experience have a mellowing influence.

Age by itself seemed to be influential in a number of areas, although we do not, of course, know what "age" may represent. We think it probably reflects maturity, although it may be that older individuals were born in a different era, or obtained their training in a period when certain types of students were selected. The findings suggested that the older person (35 or older) in practitioner training was likely to have more self-control, perseverance, and sense of orderliness, as well as being less emotionally variable. Older practitioners tended to be less verbally aggressive or manipulative than the younger practitioners, but also felt less secure about themselves and their self-worth than did their younger counterparts. A sense of responsibility and dependability increased with age. There was also a steady growth of belief in the ability to control one's own life and destiny, and to feel less a pawn of fate.

The developmental differences are more clearly attributable to something other than age alone. The higher the ego development level, the less likely the individual was to use unfavorable adjectives about herself; apparently, there is a loss of earlier negative feelings. Concern about caring for others seemed to increase with developmental level, and there was a decreasing tendecy to be exhibitionistic. Since Loevinger does not specify any particular behavioral correlates for her stages, these are of special interest.

Table 4-3

Significant Education, Age and Developmental Differences Found Using ANOVA with Personality Tests

	Education					Age			Developmental Level			
	CE			Academic								
Dependent Variables	AA	BS	MS	BS	MS	under 28	28-34	35+	Low	Trans.	Consc.	High
Adjective Check List												
Unfavorable Adjectives									50.8	48.9	45.8	44.8*
Self-control						50.6	50.6	55.2**				
Lability						50.7	52.2	47.4***				
Endurance						52.9	51.3	57.2**				
Order						51.6	51.0	57.0***				
Nurturance	50.1	50.9	47.3	43.6	51.8**				44.2	47.2	52.9	52.6**
Exhibition									54.0	51.2	48.3	51.5*
Abasement	46.7	46.5	45.5	36.4	48.1*							
Deference	47.9	46.6	46.5	38.4	48.8*							
Factor 3 Perseverence						50.4	50.5	53.2**				
CPI												
Capacity for Status	52.7	57.4	52.1	55.3	59.0*							
Social Presence						61.2	59.9	54.2***				
Self-acceptance						61.4	59.7	53.7**				
Well-being									46.0	43.3	45.7	49.9*
Responsibility						42.4	46.2	48.4*				
Tolerance	52.6	55.7	52.1	47.6	55.3*							
Communality	50.1	50.3	45.2	43.8	51.0*							
Achiev. via Independence	59.2	62.6	65.8	58.3	63.1*							
Social Maturity Index	49.5	51.0	46.0	47.8	49.9*							

Table 4-3

Significant Education, Age and Developmental Differences
Found Using ANOVA with Personality Tests

	Education					Age			Developmental Level			
	CE			Academic								
Dependent Variables	AA	BS	MS	BS	MS	under 28	28-34	35+	Low	Trans.	Consc.	High
Factor 4 Socialized Super-ego	47.9	48.5	41.6	43.1	48.2**							
POI												
Inner Directed	52.6	54.8	54.6	57.8	52.6*							
Rotter I-E scale												
External Locus of Control						10.8	9.7	8.2**				

* = $p < .05$
** = $p < .01$
*** = $p < .001$

Table 4-4

	Education					Age			Developmental Level			
	CE			Academic								
	AA	BS	MS	BS	MS	under 28	28-34	35+	Conform. Preconf.	Trans.	Consc.	Post-Consc.
NP Competence - Period 1												
Patient Counseling	11.4	12.1	22.9	11.0	12.6***							
NP Competence - Period 2												
Staff Relationships						4.8	7.1	6.0**				
Physician Relationships						7.1	6.1	7.5*				
Commitment - Period 1									4.1	4.7	4.9	4.7*

* = p< .05
** = p< .01
*** = p< .001

However, in these results we see what is a difficult finding to interpret and a common one with this measure.[3] When the means are plotted, instead of a linear upward progression they frequently form a J-curve, with those at the lower developmental levels having higher scores than those at the middle stages of development. Two interpretations of this occurrence seem possible. Either development takes place in a J-curve fashion, or those persons scored at the preconformist and conformist developmental levels represent a unique, and possibly peculiar group. Although we cannot judge which interpretation is correct at this point, we tend to see them as a special group, perhaps individuals whose true developmental level is much higher but who resent test-taking and participating in research. A subject motivated to give only brief, cursory responses could get such a low score on this test. As a consequence of this uncertainty, we will put less emphasis on the scores of those at the lower levels, and concentrate on the trends exhibited by the other three groupings. Loevinger's theory is such that each category should really be interpreted separately, but with the small sample numbers in the upper and lower categories, this is difficult to do, so we shall concentrate mainly on apparent trends.

An example of this is the variable of well-being, which appears to increase with developmental level, but is already modestly high for those at the lower developmental levels.

Competence and Commitment

So tantalizing were these results that the effects of education, age, and developmental level were studied on other variables as well. We particularly wanted to see what affected the sense of competence and commitment in the nurse practitioner role. Table 4-4 represents the findings for two periods, at entry into the program and at the end of the training period.

Not too surprisingly, the master's students in CE who had been educated earlier, and who were experienced, had the highest sense of competence in patient counseling. No other initial competence showed any difference, which might be expected, since most of the competencies were ones which the prospective student nurses were yet to learn. However, it is of some interest that satisfaction in current role did not differentiate between any of the entering groups. Apparently their initial sense of adequacy and satisfaction was fairly similar. Initial commitment did not vary with education or age, but did surprisingly with developmental level. Higher levels had higher commitment scores although the differences were small, and did not persist.

Older practitioners felt more competent after their training in two areas having to do with interpersonal relationships: competence in staff and institutional relationships, and in working with physicians. In each case they reported more improvement than the other two groups. This analysis was done only for the first two periods; at the final follow-up (Period 4), age, education, and developmental level were included among the variables used to predict nurse practitioner competencies in multiple regression equations (see Chapter 8) and correlations were computed. Although education was not associated with the competencies at that period, age and development were.

Age correlated .30 with patient counseling and .16 with total Nurse Practitioner competency. More complex ego development levels were also related to competency at the Period 4 follow-up, with correlations of .27 with patient counseling competency, .19 with physician relationships, and .15 with total NP competency.

It is interesting that at this period both age and complex ego development are related to competence in patient counseling. It appears that maturity is an important element in patient rapport.

Summary

This chapter has attempted to unravel the various contributions of age, education, and ego development to differences among the practitioners. The following represents a brief, step-by-step summary of the findings.

Initially, when students in different educational programs were compared, a number of personality differences were found. The CE and MS academic students were most similar, and were also close in age. The BS academic students were most different and about eight years younger; as a group they were more assertive and independent, but appeared less responsible, and more impulsive. They were in the paradoxical position of desiring autonomy, but lacking a sense of control over their lives. Fewer of them were at higher ego development levels.

Further analysis suggests that these differences were indeed age differences rather than educational differences. Older practitioners, when compared to those younger, had more self-control, perseverance, and orderliness. They were less assertive, but it was difficult to determine whether this was a failing or an asset. They were more responsible, and believed that their own efforts were effective.

Those with higher ego development scores had fewer negative feelings about themselves, a greater sense of well-being, and were more caring of others; low scoring individuals were difficult to interpret.

Both age and development were positively related to a sense of competency in counseling and communicating with patients. Initially those with more education and experience felt more competent, but by the end of the follow-up, age and developmental levels were related to both NP competency in general and competence in patient counseling.

Younger, inexperienced students (under 25 years of age) seemed to be at some disadvantage in the practitioner program, due to rather complex interactions of experience, maturity, and age with skills and personality patterns.

Chapter 4 - Notes

[1] A two-volume scoring manual presents the rationale for scoring the sentence completion tests for levels of ego development. See *Measuring Ego Deveopment*, Volume 1, by Jane Loevinger, Ruth Wessler and Volume 2 by Jane Loevinger, Ruth Wessler, and Carolyn Redmore; San Francisco: Jossey-Bass, 1970. Our tests were scored by a rater originally trained by Loevinger's group. Her theory is discussed in her book, *Ego Development*, San Francisco: Jossey-Bass, 1976.

[2] The two-factor ANOVA tests were done by the "classical" method, in which the test for main effects of either factor is adjusted for main effects of the other factor. Computer programs used were from the Statistical Package for the Social Sciences (SPSS).

[3] See article by Stuart T. Hauser, "Loevinger's Model and Measure of Ego Development: A Critical Review," *Psychological Bulletin*, 1976, 83, 5, 928-955.

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Chapter 5

Patterns of Personality Characteristics in the Practitioners

Questions: What patterns of personality characteristics are important? Do practitioners who are more assertive and independent do better in the practitioner role? Do individuals who are responsible, dependable, and caring perform better? Are individuals who combine these two aspects--who possess what might be called androgynous competency--different from those who do not?

Nursing has long been described as a feminine occupation, not only because women have predominated in it, but also because it has stressed a caring, nurturant, supportive approach to others in illness and in health. One of the attractions of the practitioner role has been its additional emphasis on added modes of care such as responsibility for the assessment and management of various aspects of patient care--an emphasis which calls upon personal qualities of independence, self-reliance, autonomy, self-confidence. It has been stressed that the practitioner must be capable of taking risks, and of making necessary decisions independently, rather than simply carrying out decisions made by others. To some, assertive, independent characteristics are seen as "masculine."[1]

I have taken a somewhat different point of view. In views outlined elsewhere,[2] I have suggested that "masculine" and "feminine" are inappropriate stereotypes for characteristics which are not the exclusive province of males or females, but are shared by both men and women, and noted that when we look at actual self-descriptions, there is a great deal of overlap in self-attributed modes of behavior. In fact, when we look at developmental theory and research,[3] there is much to support the idea that the ability to combine autonomy and interpersonal warmth is one of the hallmarks of maturity and of higher self-esteem. It may be true that some people are guided by the dictates of sex-role stereotyped behavior, but the ability to transcend such narrow labels is equally common for those not bound by conventional notions of masculine and feminine, and who develop many aspects of their own being.[4] Such combining of qualities has been labeled "androgyny" in much current writing. As I use such a term, it refers to having both masculine and feminine qualities without reference to sex-role identity itself. In particular, it refers to an individual who feels comfortable enough in his or her own gender identity to express a rich variety of behaviors, untroubled by stereotyped gender restrictions.[5] It does not mean a person who feels neither male or female.

I prefer to do away with the terms "masculine" and "feminine" altogether and substitute somewhat parallel terms set forth by Bakan,[6] who suggested "agentic" for an orientation which is individualistic and initiating, and "communal" for an orientation which facilitates interpersonal, nurturant, sensitive qualities. An individual who is outstanding in both agentic and communal qualities might have what I would call "androgynous competencies." An individual who is low in competence in both dimensions would simply be low in competence, possessing neither agentic, communal, or androgynous competencies.

In my model of the competent nurse practitioner, I hypothesized that the person with androgynous competencies would adapt better to the practitioner role than either the person with agentic qualities alone, or communal qualities alone, and that the person with low competencies in either orientation would adapt least well. Since we primarily had competency and other personality measures, but few performance measures, it seemed most appropriate in this stage of the research to look at these four orientations, and to analyze their relationshp to age, self-concept, personality characteristics, and adaptation to the practitioner role.

Androgynous Competency

The Measure

Several writers have attempted to define agency and communion, using Bakan's writings as a basis.[7] He describes them as follows:

> I have adapted the terms "agency" and "communion" to characterize two fundamental modalities in the existence of living forms, agency for the existence of an organism as an individual, and communion for the participation of the individual in some larger organism of which the individual is a part. Agency manifests itself in self-protection, self-assertion, and self-expansion; communion manifests itself in the sense of being at one with other organisms. Agency manifests itself in the formation of separations; communion in the lack of separations. Agency manifests itself in isolation, alienation, and aloneness; communion in contact, openness, and union..."[8]

Previous attempts to translate these definitions into measurable forms have been only partially successful, or have not been applied to adults. I attempted to develop a scale which would measure agency and communion in the form of competencies or qualities of skill which the individual possessed. Such an emphasis on competencies avoids what Bakan called "unmitigated" expressions of either modality. In his view, agency needs to be "mitigated" or blended with communion and communion with agency. In their unmitigated forms, each quality can be excessive, destructive, and pathological.

> It is important not to confuse unmitigated agency and communion with competencies, although they often masquerade as true agency or communion. "Hostility" would be such an unmitigated agentic trait, "helpless," a communion one. Often unmitigated qualities have negative consequences for

> the self or for others, or represent a denial of the needs of others, and a lack of empathy or awareness. They may denote a denial of self, of one's own feelings, an anxiety about impulses, or a driven state. These qualities may also be primarily expressive of inner need (in the case of unmitigated communion) for maintaining certain appearances.[9]

An attempt to more clearly delineate what was meant by competencies lead to the following definitions:

> Agentic Competencies. These are capabilities the self has which reflect a forceful active self, reaching out, attempting to achieve a goal, but not necessarily in competition. There is a sense of striving with the self as agent ("determined"), and working to bring results ("industrious"). They may also indicate qualities the self has, effectances which are characteristic of the individual self. ("Independent," "decisive.") These are self-competencies--the self acting alone with no compelling sense of others being involved in the activity.
>
> Communion Competencies. These are capabilities which are effective in interaction with others. There is an "other-referent" quality to them, having to do with reliability and sensitivity. ("Other people can count on me;" "dependable.") ("I do not hurt other's feelings." "tactful.") They do not represent defensive or impulse driven needs. They bring about results, but in conjunction with others through developing others' ability or facilitating joint action, or creating environments which allow for mutual growth, creativity, or achievement. "Helpful;" "conscientious;" responsible." There is no tendency to merely submerge the self, but rather an ability to do this in order to facilitate a mutual goal.[10]

A list of statements of agentic and communal competencies was reduced to adjectives, and two lists of equal length (25 adjectives) were developed, one of which represented agentic competencies, the other communal competencies. Because the Adjective Check List was already being used in the study, and included 300 adjectives (both positive and negative), the scales included only adjectives which appeared on this test.

Several item analyses were performed and adjectives which had a poor correlation with total scale score, or a high correlation with the opposing scale, were omitted from the final scale. In addition, a factor analysis revealed that though most items clearly belonged in the designated category, there was an additional factor to which some items in each scale seemed to belong. This appeared to be an efficiency factor, and included adjectives such as efficient, dependable, conscientious, and organized. Since there was an equal number of adjectives from this factor on each scale, and since it was judged a valuable contribution to the two scales, it was allowed to remain. Table 5-1 lists the adjectives originally considered, and notes with an asterisk (*) those omitted in the final scale. It is possible that the original scale may be more suitable for some groups. [The findings in this study were very similar using either the original or the adjusted scale.]

Table 5-1

Adjectives from ACL Which Make Up
Agency-Communion Competency Scale

Agency	Communion
*ambitious	dependable
adventurous	tactful
curious	sensitive
persevering	conscientious
clear-thinking	affectionate
*determined	understanding
individualistic	kind
*industrious	*appreciative
energetic	*adaptable
independent	warm
intelligent	responsible
*outspoken	*cooperative
assertive	helpful
self-confident	*imaginative
*calm	*original
*active	considerate
capable	*discreet
forceful	fair-minded
courageous	reasonable
efficient	thoughtful
enterprising	friendly
*rational	*praising
initiative	good-natured
organized	sympathetic
*sharp-witted	reliable

*These adjectives were omitted in the final scale, due to low inter-item reliability.

The actual scale score was computed by dividing each scale score by the total number of adjectives each individual used, thus correcting for a tendency to simply use many words to describe the self. In a sense the resultant score is a salience score.

A four-fold category was established by dividing those on each scale into those above and below the mean. Those high on both the agency and communion scales were labeled Androgynous; those high on agency, but low on communion were in the Agency group; those low on agency but high on communion, were the Communion group, and those low in both agency and communion competencies were in the Low Competence group.

An analysis of variance was carried out using the various personality tests, competencies, and other nurse practitioner characteristics as dependent variables. In addition, a planned comparison of two sets of means was also done, comparing the Androgynous with the Low Competence, and the Agentic with the Communal. Table 5-2 presents the significant findings for the Adjective Check List (ACL) and the California Personality Inventory (CPI). Although the scale adjectives were taken from the ACL, their relationships with other scales from the same test may be informative nonetheless.

Table 5-2

Mean ACL and CPI Scale Scores for Four Competency Groups

Scale Variable	Hi A Hi C	Hi A Lo C	Lo A Hi C	Lo A Lo C	F	p	Significant Contrasts[a]
ACL Scales							
ACL total adjectives	49.1	57.0	49.2	65.3	32.1	.001	1 & 2
Defensive	56.0	50.8	52.3	46.8	11.3	.001	1
Favorable	60.4	54.9	55.0	51.6	8.1	.001	1
Unfavorable	43.0	46.6	46.1	53.5	17.0	.001	1
Self-confidence	57.0	59.7	49.0	50.0	11.9	.001	1 & 2
Self-control	55.0	48.3	56.5	48.0	9.8	.001	1 & 2
Personality Adjustment	55.7	50.8	54.1	47.1	11.0	.001	1
Achievement	59.7	61.6	51.2	52.7	17.9	.001	1 & 2
Endurance	55.8	56.8	54.2	49.0	8.1	.001	1
Intraception	57.2	51.9	53.8	49.6	6.8	.001	1
Nurturance	54.1	45.9	54.0	44.7	15.0	.001	1
Affiliation	52.4	45.9	48.7	45.6	4.5	.005	1
Heterosexuality	56.0	53.2	49.1	50.2	4.4	.005	1
Exhibitionism	52.3	55.2	45.0	47.8	5.7	.001	2
Autonomy	53.6	59.9	44.1	54.6	13.9	.001	2
Aggression	50.0	58.8	46.5	53.1	10.4	.001	2
Dominance	59.8	62.4	49.3	49.0	23.9	.001	1 & 2
Change	55.0	53.6	44.3	52.1	8.3	.001	2
Succorance	42.4	40.9	51.9	53.7	24.4	.001	1 & 2
Abasement	43.1	36.8	53.6	50.7	20.5	.001	1 & 2
Deference	46.3	39.0	55.5	46.8	17.1	.001	2
ACL Factor 1							
Effective Nurturance	55.3	50.4	52.5	46.9	17.2	.001	1
ACL Factor 2							
Ego Assertion	55.4	59.4	47.3	51.3	18.4	.001	1 & 2
ACL Factor 4							
Effective Maturity	57.4	56.6	52.3	49.9	17.1	.001	1 & 2

Scale Variable	Hi A Hi C	Hi A Lo C	Lo A Hi C	Lo A Lo C	F	p	Significant Contrasts[a]
CPI Scales							
Dominance	57.3	59.7	49.6	53.8	6.5	.001	2
Capacity for Status	57.8	57.4	51.8	55.1	2.7	.048	2
Sociability	56.7	55.8	50.0	52.9	3.3	.021	2
Social Presence	60.8	60.8	54.4	58.8	3.9	.011	2
Self Acceptance	60.0	60.7	53.6	59.5	3.5	.017	2
Well-being	53.6	48.9	48.7	45.1	6.9	.001	1
Responsibility	47.8	46.4	46.5	41.3	4.1	.008	1
Socialization	47.3	44.4	47.5	42.4	2.6	.052	1
Self-control	52.8	45.3	51.4	42.8	10.6	.001	1 & 2
Tolerance	58.3	54.6	51.8	50.4	6.6	.001	1
Good Impression	51.3	44.3	46.9	41.5	7.6	.001	1
Achievement via Conformance	55.3	52.1	52.6	47.5	6.3	.001	1
Intellectual Efficiency	58.9	59.9	53.7	54.0	4.6	.004	1 & 2
Femininity	52.1	47.9	54.2	48.9	2.8	.040	2
CPI Factor 1 Reliable Responsibility	53.2	48.6	49.8	45.0	10.4	.001	1
CPI Factor 2 Dominant Individualism	58.5	58.9	52.4	56.2	5.5	.001	2

[a] Contrast 1 = (Hi A, Hi C) vs. (Lo A, Lo C). There is a significant difference between the Androgynous and the Low Competence.
Contrast 2 = (Hi A, Lo C) vs. (Lo A, Hi C). There is a significant contrast between the Agentic and the Communal.

The Androgynous group (Hi A, Hi C) stands out on many of the measures, particularly in contrast to the practitioner students who are in the Low Competence group. They use fewer total adjectives, yet they are well-defended, use more favorable adjectives, fewer unfavorable adjectives, are self-confident and self-controlled, have a superior personal adjustment, are high in achievement, endurance, intraception, nurturance, affiliation, heterosexual interests, exhibitionism, and dominance. They do not differ from the low group in autonomy or aggression, but have less need for succorance and abasement. The Agentic group differs from the Communion group in using more total adjectives, being higher in self-confidence, but lower in in self-control, higher in achievement, lower in nurturance, higher in exhibitionism, autonomy, aggression, and dominance. They are more open to change and are lower in succorance, abasement and deference.

The Communion group rarely has higher scores than the Androgynous group, but the Agentic group has more total adjectives, is lower in self-control, is lower in nurturance and affiliation, and more aggressive as compared to the Androgynous competency group.

The CPI shows similar differences. The Androgynous consistently have the highest scores, and differ most from the Low Competency on the group of scales which consist of scales having to do with mature responsibility. They are characterized by a sense of well-being, higher scores on responsibility, socialization, self-control, tolerance for others, are interested in giving a good impression, achieve through conformity to group norms, and are more intellectually efficient.

The Communion group have consistently lower scores on the variables having to do with outgoing assertiveness. As compared to the Agentic group, they are less dominant, have less capacity for status, less sociability, have less social presence and self-acceptance, but greater self-control. They are also lower on intellectual efficiency.

The femininity score on the CPI is based upon a traditional, passive definition of femininity, and it is not too surprising that the Communion group is higher. It is of particular interest that both the Androgynous and Low Competency groups have almost identical scores, and are each at about the 50th percentile.

The comparisons based on the ACL and CPI factors confirm these results. On these two tests, the Androgynous group was clearly superior, with the Low Competency group revealed as quite different from it. From these findings it seemed a justified decision not to have named this a "Low Androgynous" group, since it apparently consists of people who are not androgynous, but who lack strong competencies in either sphere.

Significant differences also appeared on other measures, including the POI, a short scale measuring assertiveness, and a measure of desire for independent responsibility. These may be seen in Table 5-3.

Table 5-3

Scores of the Four Competency Groups on the POI, Lack of Assertiveness, and Responsibility Scales

N = 153-127
Women only

Variable	Hi A Hi C	Hi A Lo C	Lo A Hi C	Lo A Lo C	F	p	Significant Contrasts[a]
POI							
0/1 Support Ratio	3.33	3.42	2.61	2.89	3.44	.02	2
Time Competence	57.2	51.3	52.0	47.7	9.67	.001	1
Inner Directed	55.3	56.5	50.6	52.6	5.55	.001	1 & 2
Self-actualizing Value	56.6	57.4	49.3	53.6	8.24	.001	2

N = 153-127
Women only

Variable	Hi A Hi C	Hi A Lo C	Lo A Hi C	Lo A Lo C	F	p	Significant Contrasts[a]
Feeling Reactivity	56.0	58.5	51.1	55.4	6.2	.001	2
Spontaneity	58.5	58.5	53.8	55.2	3.07	.03	2
Self-regard	58.6	57.3	52.5	53.7	8.32	.001	1 & 2
Lack of Assertion	.316	.379	.852	.436	3.8	.01	2
Desire for Independent Responsibility	2.9	3.3	2.4	2.4	7.7	.001	1 & 2

[A] Contrast 1 = (Hi A, Hi C) vs. (Lo A, Lo C); Androgynous vs. Low Competency.
Contrast 2 = (Hi A, Lo C) vs. (Lo A, Hi C); Agentic vs. Communal.

The Androgynous and the Agentic means are very similar for most of these measures and are usually in a more desirable direction. We can say that these groups are usually inner-directed, have more self-actualizing values, are responsible to their own needs and feelings, are more spontaneous, and have a higher sense of self-regard. They are more assertive and enjoy taking charge. In nearly all instances, these differences are more pronounced in comparison to the Communion group than to the Low Competency group, suggesting that the Communion scale particularly identifies individuals low in these qualities. Also suggested is that the important Inner-Directed scale of the POI is largely agentic in nature ($\underline{r}$ = .31). An exception is the POI Time Competence scale. The Androgynous are significantly higher than the Agentic or the Low Competents. The POI manual describes this as a scale which measures the degree to which a person is "present" oriented, rather than living in the past or in the future, and we have found in working with it that it seems to reflect a somewhat more other-oriented orientation. However, the Androgynous group are distinctly highest on this, again emphasizing the superiority of this group.

These results also seem to verify the validity of the agentic scale. If we compare the two major scales of the POI, the Time Competence and Inner-Directed, we see that for the Androgynous, both these scores are high and balanced. The Agentic have more imbalance between the two, but are very inner-directed, which is one aspect of agency. The Communion group is fairly balanced, with a little leaning toward Time Competency, but is not as high on either measure as the Androgynous. The Low Competents have even lower scores, and an imbalance tipped toward Inner-Direction. We might see this as indicative of impulsivity and ego needs which are less guided by reality. Apparently the POI is a very agentic measure of self-actualization, and contains little that measures what the communion scale attempts to measure.

Significant differences are also found when we compare the mean scores of the four groups on the Nurse Practitioner Competence measures at Periods 1, 2, and 4 in Table 5-4.

Table 5-4

Self-Reported Nurse Practitioner Competence and the Agency Communion Competence Groups

	Hi A Hi C	Hi A Lo C	Lo A Hi C	Lo A Lo C	F	p	Significant Contrasts[a]
Nurse Practitioner Competence Period 1: N = 129							
Patient care	13.1	14.6	12.5	10.1	3.9	.01	1
Non-medical Staff Relationships	5.1	5.6	5.1	4.2	2.8	.04	-
Physician Relationships	6.2	7.2	5.1	5.2	4.0	.01	2
Current Role Satisfaction	23.4	24.1	21.7	20.1	4.9	.003	1
Total Nurse Practitioner Competence	48.0	50.0	44.5	39.7	6.5	.001	1
Period 2: N = 153							
Patient care	15.6	15.9	14.0	13.8	3.6	.01	1 & 2
Non-medical Staff Relationships	-	-	-	-	-	.07	-
Physician Relationships	7.3	8.0	6.4	5.9	4.8	.003	1 & 2
Current Role Satisfaction	22.3	23.8	20.6	18.8	7.0	.001	1 & 2
Total Nurse Practitioner Competence	50.3	52.8	44.3	42.9	7.7	.001	1 & 2
Period 4: N = 100							
Patient Care	-	-	-	-	-	.06	-
Physician Relationship	8.6	9.2	8.0	7.08	3.97	.01	1
Current Role Satisfaction	25.3	25.5	23.8	22.3	3.2	.03	1
Total Nurse Practitioner Competence	58.8	58.1	54.7	51.1	2.8	.04	1

[a] Contrast 1 = (Hi A, Hi C) vs. (Lo A, Lo C); Androgynous vs. Low Competency.
Contrast 2 = (Hi A, Lo C) vs. (Lo A Hi C); Agentic vs. Communal.

Just by inspecting the table, one notes that the Androgynous and Agentic are higher in NP Competence on all variables and that the Low Competency group also has the lowest self-perceived competence as a nurse practitioner on all the variables. This finding adds support to the validity of the measures of the Agency-Communion Competency scales, since the two different competency measures are in rough agreement. Although the Agentic means are often a little higher, this difference is never significant.

The best overall score is Total Nurse Practitioner Competence. At entrance, even though the students bring many different work experience and training backgrounds into the program, the Androgynous group is superior in competence to the Low Competency group. At the end of the training (Period 2), these two groups still differ, but the Agentic perceive themselves as more competent than the Communion group. At the final follow-up (Period 4), the only significant difference is between the Androgynous and the Low Competency.

In looking at all the Nurse Practitioner Competency variables, the Androgynous and the Low Competency differ the most, although the Agentic and Communal groups are often significantly different or almost so. Agency by itself, or when combined with Communion in the Androgynous category seems to lead to self-perceived competency in this role.

There were no significant age, coping, stress, developmental, motivational or socioeconomic differences. The Rotter I-E Locus of Control showed no significant F score, although the trend was for the more Androgynous to have higher Internal scores and the Low Competency to have the highest external scores (the planned contrast p = .02).

Some Conclusions

Looked at as a whole, these differences confirm the original hypothesis that androgyny, the combination of high agency and high communion competencies, is valuable to the prospective nurse practitioner. Consistently, individuals with androgynous competencies have higher esteem and self-confidence, and feel very competent as practitioners. The personality qualities they have are outstanding, and they present a picture of an outgoing, caring person with reasonable control of impulses. Consistently too, they illustrate the importance of separating the high and low androgynous groups, and looking at those with low scores on both agency and communion as a separate group. They do not seem so much to be a mixture as to lack adequacy in either area. The Agentic are also well equipped for the nurse practitioner role, although we are more aware of their slightly impulsive, dominant, less nurturant natures. Some question might be raised as to whether the Agentic are really different from the Androgynous or whether agency is the determining influence in their high but similar scores. Perhaps the agency scale already has a fair amount of communion in it, since no "unmitigated"[7] agentic adjectives were used. At any rate, those with communion competencies alone seem well enough equipped by personality for the role, but suffer from lack of self-confidence and drive.

Androgynous Maturity

A different approach to measuring androgyny was tried using scales from the California Psychological Inventory. In this instance, instead of adjectives, two factors derived from the CPI scales were combined in a similar four-fold typology. The reason for this new approach was to see if similar results were obtained as with the agency-communion scales and to learn if this approach was any better than the first.

Most factor analyses of the CPI have revealed considerable uniformity in the number of factors found, and the scales which comprise these factors.[11] When the nurse practitioner CPI scales were factor analyzed, the same five factors and scales appeared as in other studies.[12]

The first factor, which accounted for 22% of the variance in our sample was made up of scales very similar to what we have called communion. Women high on this factor are responsible, controlled, conventional, nurturant and tolerant. They also seem to be well adjusted. [The CPI scales are Well-being, Responsibility, Self-control, Tolerance, Good Impression, and Achievement via Conformance.] The second factor which accounted for 19% of the variance was composed of the more outgoing, assertive scales of the CPI (Dominant, Capacity for Status, Sociability, Social Presence, and Self-acceptance) and seemed similar to Bakan's agency dimension. Women high on this factor are confident, assertive, and enjoy the limelight. Those high on the first factor were called Reliable Responsibles, and those high on the more agentic-style factor, Dominant Individualists. Together these two factors accounted for 41% of the total variance of the test. As in the first study, we wanted to compare not only individuals who were high on one factor or the other, but also those who were high on both factors with those who were not strong on either factor.

An analysis of variance was run comparing four groups: those above the mean on both factors; those above the mean on Reliable Responsibility alone; those above the mean on Dominant Individualism alone; and those below the mean on both factors. We thought of these groups as the Androgynous Mature, the Reliable Responsibles, the Dominant Individualists and the Inadequates. This proved to be a very powerful typology, as we shall see.

Adjective Analysis

The adjectives which each of these groups used to describe themselves can tell us whether the typology seems to be measuring the more abstract concepts of androgyny, agency and communion. In general the practitioners were a select group who had very positive and strong self concepts. In all four groups, for example, over 85% of the trainees used the following adjectives from the ACL to describe themselves: friendly, affectionate, healthy, cooperative, active, and adaptable. An interesting list emerges when we examine those adjectives which each group use more or less than the average (the criterion was a difference of at least 10% from the mean on an adjective that was used by at least half of the total group). The results may be seen in Table 5-5.

Table 5-5

Differentiating Adjectives by Groups

Hi Factor 1 Hi Factor 2	Lo Factor 1 Hi Factor 2	Hi Factor 1 Lo Factor 2	Lo Factor 1 Lo Factor 2
Androgynous Mature	Dominating Individualists	Reliable Responsibles	Inadequate
	Words Most Used		
energetic	alert	warm	adventurous
stable	realistic	progressive	emotional
self-confident	resourceful	relaxed	anxious
easy-going	humorous	quiet	agressive
optimistic	foresighted	reserved	argumentative
confident	clever	leisurely	
outgoing	complicated	modest	
spontaneous	demanding	shy	
contented	impatient		
	persevering		
	defensive		
	moody		
	worrying		
	deliberate		
	Words Less Used		
	pleasant	curious	mature
	sociable	individualistic	forgiving
	generous	stable	good-natured
	emotional	adventurous	idealistic
	tolerant	assertive	energetic
	wise	outgoing	feminine
	tactful	pleasure-seeking	resourceful
			natural
			optimistic
			peaceable
			civilized
			versatile

These self-descriptions reinforce the conclusion that the measures chosen as parallel to agency and communion are characterized by adjectives which seem appropriate. Furthermore, when the two factors are combined in the Androgynous Mature, they appear to augment each other in such a way that outstanding personality qualities are the result, with extreme and undesirable tendencies modulated.

Of particular interest are the adjectives used least by each group. (At least half of the total group used these adjectives, but the differentiating group used it less by at least 10%.) The Androgynous Mature had none in this category, while the Inadequate had the most. Those less used by the Inadequate were nearly all positive adjectives; this group tended to see themselves as having qualities such as "emotional" but lacking qualities such as "mature." The Dominating Individualists, when compared to other groups, were less likely to describe themselves as pleasant or sociable, but used adjectives which described both good and bad qualities: "resourceful, demanding, impatient." The Reliable Responsibles were less likely to use "individualistic" or "adventurous." They apparently found risk-taking more difficult.

Personality Scales

Table 5-6 presents the findings of an analysis of variance, comparing these four groups on age, personality scales of the Adjective Check List, and scales of the CPI. The latter is somewhat redundant, since these groupings are based upon the CPI, but it gives a clearer picture of the interrelationship of androgyny and the other scales. In addition, a Hays Planned Comparison between means was done for the same contrasting groups as in the previous study. The first contrast, between those high on both factors and those low on both factors; the second between those high only on Dominant Individualism or on Reliable Responsibility. Results are reported only if significant beyond the .05 level.

Table 5-6

Means of the Four Androgynous Maturity Groups on Age, the ACL, and the CPI

Variable	Androg. Mature Hi F 1 Hi F 2	Responsible Hi F 1 Lo F 2	Dominant Lo F 1 Hi F 2	Inadequate Lo F 1 Lo F 2	F	P	Signif. Planned Contrasts[a]
Age	30.3	33.4	29.2	29.18	2.68	.05	2
ACL							
Total Adj.	54.3	52.3	61.5	54.9	3.9	.01	2
Defensive	55.9	54.1	46.6	46.8	15.0	.000	1 & 2
Fav. Adj.	58.9	57.8	53.6	48.8	10.3	.000	1
Unfav. Adj.	42.4	45.1	51.1	53.0	18.9	.000	1 & 2
Self-conf.	56.6	52.3	58.4	48.1	7.6	.000	1 & 2
Self-Control	54.6	56.1	45.4	50.7	9.8	.000	1 & 2
Liability	54.1	47.7	51.4	46.2	5.7	.001	1
Personal Adj.	55.0	54.3	48.7	46.6	10.3	.000	1 & 2
Achievement	-	-	-	-	-	.06	-
Dominance	57.9	54.1	57.8	48.8	6.5	.000	1
Endurance	54.6	57.4	50.5	51.7	4.5	.005	2
Order	52.2	57.5	50.0	53.3	4.1	.008	2
Intrac.	56.3	55.4	50.4	49.4	6.4	.001	1 & 2

Variable	Androg. Mature Hi F 1 Hi F 2	Responsible Hi F 1 Lo F 2	Dominant Lo F 1 Hi F 2	Inadequate Lo F 1 Lo F 2	F	P	Signif. Planned Contrasts
Nurturance	54.0	52.6	45.1	44.5	12.09	.000	1 & 2
Affiliation	52.2	51.0	44.9	43.4	7.2	.000	1 & 2
Heterosex.	54.1	52.1	55.3	46.8	5.1	.002	1
Exhibition	52.7	44.1	58.9	45.2	12.4	.000	1 & 2
Autonomy	52.8	50.5	60.5	51.4	5.3	.002	2
Aggression	50.2	47.7	57.6	53.8	6.1	.001	2
Change	53.8	49.0	54.6	47.7	4.1	.009	1 & 2
Succorance	42.3	47.0	49.0	52.2	8.1	.000	1
Abasement	42.9	49.9	41.1	51.3	6.9	.000	1 & 2
Deference	46.5	49.7	40.0	48.7	5.2	.002	2
Coun. Readiness	49.9	54.3	57.5	58.0	6.5	.000	1
Factor 1 Effective Nurturance	55.2	53.5	47.5	46.7	21.3	.000	1 & 2
Factor 2 Ego Assertion	54.7	50.9	58.1	49.6	7.4	.000	1 & 2
Factor 3 Perseverance	51.8	53.4	49.3	50.9	3.6	.01	2
Agency	16.2	15.3	14.6	12.1	9.7	.001	1
Communion	20.7	20.8	16.2	17.4	9.9	.000	1 & 2
CPI							
Dominant	59.9	51.4	61.9	46.9	26.6	.000	1 & 2
Capacity for Status	61.0	52.5	59.7	47.6	25.4	.000	1 & 2
Sociability	60.2	47.6	60.0	45.6	47.7	.000	1 & 2
Social Presence	63.8	52.7	64.0	53.0	28.9	.000	1 & 2
Self-Acceptance	63.1	50.9	65.8	52.9	34.6	.000	1 & 2
Well-Being	55.1	53.1	45.3	39.3	49.8	.000	1 & 2
Responsib.	50.3	49.2	38.9	39.8	22.7	.000	1 & 2
Socializ.	47.4	48.5	40.8	43.1	5.4	.000	1 & 2
Self-Control	52.7	56.4	38.0	41.9	54.3	.000	1 & 2
Tolerance	59.5	56.7	49.9	45.6	29.5	.000	1 & 2
Good Impressions	52.1	52.2	39.2	38.0	37.9	.000	1 & 2
Communality	-	-	-	-	-	-	-
Achievement via Conf.	57.9	54.5	48.2	43.6	37.9	.000	1 & 2
Achievement via Ind.	63.3	63.6	59.1	59.1	3.5	.01	1 & 2
Intellectual Efficiency	62.3	55.1	56.8	48.4	23.7	.000	1
Psych. Mind.	62.8	60.8	57.4	56.7	5.6	.001	1
Flexibility	-	-	-	-	1.8	-	-
Femininity	51.9	47.1	48.4	53.6	3.4	.02	-

[a]Contrast 1 = Androgynous Mature vs. Immature
Contrast 2 = Responsibles vs. Dominants

It should be noted that there is an effect for age between these groups, due primarily to the Reliable Responsibles being significantly older than the Dominating Individualists. While this might be a result of maturity, it may simply reflect the selection and training that the older nurses (average age 33.4) might have experienced a decade earlier.

There are many differences between these two groups which should be noted. The Dominant Individualists are less defended, use more unfavorable adjectives, have more self-confidence, but less self-control and are less well adjusted. They significantly lower scores on endurance, order, intraception, nurturance and affiliation. However, they are higher on heterosexuality, exhibitionism, autonomy, aggression and change. Not surprisingly, they are lower on abasement and deference. There is a remarkable similarity to the patterns found using the scales for agency and communion. However, when we actually compare the agency and communion scores for these groups, we see an interesting pattern which deepens our understanding of the four groups. There is the surprising fact that Agency is higher for the Responsibles than the Dominants, though not significantly so. This underscores the fact that these two methods of measuring androgyny are testing different aspects. Our Agency scale, it will be remembered, refer to competence, and the patterns of scores of the Dominants suggest that they may be highly agentic in the sense in which Bakan uses the term. They may have unmitigated agency, but lack the more positive agentic competence which would be apparent on the Agency scale. The Androgynous Mature are highest on Agency and Communion and the Inadequate are lower, which is as we would expect.

Two tests were administered which measure a sense of inner-directedness: the Rotter I-E Locus of Control scale and the POI, with its own scale of inner-direction. In each of these tests, as may be seen in Table 5-7, the Androgynous Mature were most inner-directed and were significantly different from the Indadequate. It also seemed apparent from other analyses that these two scales of the POI were measuring dimensions similar to the two factors of the CPI we have used. Of particular interest was the Time Competence scale whose scores were more like the Reliable Responsibles and Communion scales than its name would indicate.

Table 5-7

Means of the Four Androgynous Maturity Groups on Scales
of the POI, and the Rotter I-E Locus of Control

Variable	Androg. Mature Hi F 1 Hi F 2	Responsible Hi F 1 Lo F 2	Dominant Lo F 1 Hi F 2	Inadequate Lo F 1 Lo F 2	F	P	Signif. Planned Contrasts[a]
POI							
Time Comp	56.2	54.5	49.1	45.5	12.3	.000	1 & 2
Inner Dir.	57.3	52.5	55.1	48.9	13.8	.000	1

Rotter I-E	8.4	9.3	10.6	11.6	5.4	.002	1

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[a] Contrast 1 = Androgynous vs. Immature
Contrast 2 = Responsibles vs. Dominants

Finally, let us see how these personality styles affect the practitioners' self-perceived competency skills. These are reported for entry into the program, the end of the training period, and 15 months after the end of the training period. Practitioners were asked about their competencies and skills in four areas; these were then summed for a total competency score.

Table 5-8

Means of the Four Androgynous Maturity Groups on NP Competency

Variable	Androg. Mature Hi F 1 Hi F 2	Responsible Hi F 1 Lo F 2	Dominant Lo F 1 Hi F 2	Immature Lo F 1 Lo F 2	F	P	Signif. Planned Contrasts[a]
Nurse Practitioner Competencies Period 1: Entry							
Patient Communication	14.5	12.3	11.0	10.7	3.8	.01	1
Staff Relationships	5.7	4.6	4.0	4.9	3.5	.01	-
Phys. Relationships	7.1	5.2	4.8	5.4	5.1	.002	1
Current Role Satisfaction	24.6	22.2	19.6	20.7	7.8	.000	1 & 2
Total Competency	51.9	44.3	39.4	41.7	8.5	.000	1
Period 2: End of Training							
Patient Communication	16.2	14.3	15.3	13.8	3.8	.01	1
Staff Relationships	5.9	5.1	4.8	4.2	5.4	.002	1
Phys. Relationships	7.9	7.0	6.1	5.8	5.4	.002	1
Current Role Satisfaction	23.0	21.3	20.9	19.3	3.7	.01	1
Total Competency	52.7	47.6	47.0	43.0	6.4	.001	1
Clinical Skills	3.9	3.5	3.4	3.4	3.3	.02	1

Variable	Androg. Mature Hi F 1 Hi F 2	Responsible Hi F 1 Lo F 2	Dominant Lo F 1 Hi F 2	Immature Lo F 1 Lo F 2	*F*	*P*	Signif. Planned Contrasts[a]
Period 4: Follow-up (N = 81)							
Physician Relationships	9.16	7.27	8.28	7.8	2.89	.04	1

[a] Contrast 1 = Androgynous Mature vs. Immature
Contrast 2 = Responsible vs. Dominant

Upon entry there is a significant effect for all competencies. In all cases, the Androgynous Mature perceive themselves as most competent, and are almost always significantly different from the Inadequate group. The Dominants and Responsibles have fairly similar scores, although the total score is slightly lower for the Dominant group than for the Responsibles.

A more important test for competency come when they leave the program. Although most scores are higher, the order is very similar. The Androgynous group feel themselves to be most competent in every area, including clinical skills, and are still significantly different from the Inadequate, who have the lowest scores. The Dominant group's scores have come up and are now not significantly different from the Responsible group.

Fifteen months after training, competence appears to be less a function of these personality factors. The only significant competence is Physician Relationships, on which the Androgynous Mature are superior. The order of scores on the other competencies and even their magnitude is very similar to the earlier scores and it may simply be that it is more difficult to reach an appropriate significance level with the smaller size of the sample available at Period 4. Thus, on the basis of this data, we cannot be sure whether factors such as workplace or employment now enter in, or whether these personality styles are still moderately influential.

Comparison of the Two Androgyny Measures

We have used two different approaches to measuring androgyny to examine whether practitioner students with both independent, assertive qualities are superior to those who are outstanding in only one of these two directions, or to those who have equal but limited competencies in either direction. The answer, by using either measure, seems to be a resounding YES. The androgynous are consistently more outstanding in qualities such as self-esteem, adjustment and competence. As David Bakan suggested, agency does seem to need to be "mitigated" by communion and communion must be "mitigated" by agency if a well-rounded, effective, and mature individual is our goal. Even in an area such as intellectual capability (the intellectual efficiency scale on the CPI), the Androgynous Mature were clearly superior, and significantly different from the other groups.

On the other hand, one would not necessarily conclude that tests such as these should be used to select candidates. They might, of course, be useful in eliminating marginal individuals from consideration. The faculty seem to have done a good job of selection and findings such as these might serve to sharpen their judgment and enlarge their area of awareness. Some believed autonomy and assertiveness were qualities that should especially be sought in the practitioner; the results indicate that these qualities by themselves may be characteristic of individuals limited in some ways.

Apparently the practitioner role attracts several fairly distinct types of personalities, who may well make different contributions or prefer to work in different types of health settings. To exclude either the Reliable Responsibles or the Dominating Indivdualists (or those with high Agentic or Communion competencies) is premature. With greater certainty we can predict that those who lack either of these qualities will be less effective, but even then, it may be that only those with very low scores (e.g., below the 35th percentile) will present a problem.

How do the two measures themselves compare? The results are very similar, and are rarely contradictory. Sometimes one measure will be significant and the other not, but usually the direction is the same, and the results almost significant. For example, the means on the Rotter I-E Locus of Control scale were significantly different using the CPI factors; similar differences in means were found using the Agency and Communion scores, but the overall effect was significant only at the $\underline{p} = .13$ level, and thus was not included.

Both seem to be very powerful measures. Each has some disadvantages. The Agency scale is perhaps more an androgynous scale than it was meant to be. Agency already seems to be mitigated by communion in many of the words used in the scale. The CPI factor we have called Dominant Individualism is somewhat similar since it partially measures outgoingness, a form of interpersonal strength and the Responsibility factor is partially a measure of good, effective adjustment, not merely interpersonal sensitivity.

The mean scores used to form the four-fold types are, of course, arbitrary dividing points. They may or may not represent psychologically significant ones. Arbitrary divisions into personality patterns such as we have made here may subtly distort real relationships. The similarity of findings based on these two measures is heartening, but a natural division of practitioners would be even better. This will be presented in the next chapter.

Perhaps too, it should be noted here that the two tests, the ACL and the CPI, from which the scales are derived were designed to measure similar variables. Some may think it is not surprising that two measures based on them should then get corresponding results. There is something to be said for this point of view; on the other hand the measures themselves are very different. The philosophy behind each of them is distinctive, and the relationships to the nurse practitioner competencies are by no means predictable. Each seems to have its own merits and advantages.

Summary

It seems clear that practitioners who are androgynous, who possess what we have called androgynous competency, have outstanding potential as practitioners and are more likely to be competent in practitioner skills. Apparently a balance of strong assertive, confident qualities, combined with responsible, caring qualities are most ideal for this role. They tend to be found in individuals who are also inner-directed, more self-actualized, more socially responsible, and less impulsive.

Those low in both agentic and communion qualities seem less suitable and less able. Those strong in either agentic or communion qualities have different strengths and weaknesses which they bring to their work.

Chapter 5 - Notes

[1] There is extensive literature on masculine and feminine qualities. See Broverman, I.K., Vogel, S.R., Broverman, D.M. Clarkson, F.E., and Rosenkrantz, P.S., "Sex Role Stereotypes: A Current Appraisal," *Journal of Social Issues*, 1972, 28, 59-78; Bem, S.L. "The Measurement of Psychological Androgyny," *Journal of Consulting and Clinical Psychology*, 1974, 42, 155-162; Spence, J.T., Helmreich, R. and Stapp, J., "Ratings of Self and Peers on Sex Role Attributes and Their Relation to Self-Esteem and Conceptions of Masculinity and Femininity," *Journal of Personality & Social Psychology*, 1975, 32, 29-39.

[2] White, Martha Sturm, "Measuring Androgyny in Adulthood," *Psychology of Women Quarterly*, in press (Spring, 1979).

[3] See Chapter 4 in Lowenthal, M.F., Thurner, M., and Chiriboga, D. *Four Stages of Life*, San Francisco: Jossey-Bass, 1975; Block, J.H., "Conceptions of Sex-Role: Some Cross-Cultural and Longitudinal Perspectives." *American Psychologist*, June 1973, 512-526; Jung, C.G., *Modern Man in Search of a Soul*, New York: Harcourt & Brace, 1933, 95-114.

[4] Hefner, R., Rebecca, M. & Oleshansky, B., "Development of Sex-Role Transcendance," *Human Development*, 1975, 18, 143-158.

[5] Block, *ibid*.

[6] Bakan, D. *The Duality of Human Existence*, Chicago: Rand McNally, 1966.

[7] See Brown, D., and Marks, P.A., "Bakan's Bi-Polar Constructs: Agency and Communion," *Journal of Consulting and Clinical Psychology*, 1971, 37, 267-277; Block, *ibid*.

[8] On the back cover of Bakan, *ibid*.

62 [9] White, *ibid*.

[10] White, *ibid*.

[11] See Megargee, E.I., *The California Psychological Inventory Handbook*, San Francisco: Jossey-Bass, 1972, Chapter 9.

[12] The CPI factors found through verimax rotation, together with the correlation of each scale with the total factor is given below.

Factor 1	Factor 2	Factor 3	Factor 4	Factor 5
WB .78	DO .74	Ai .74	Fe .74	Cm.
Re .64	Cs .66	Pg .73	So .70	
Sc .85	Sy .81	Fx .78		
To .61	Sp .77			
Gi .84	Sa .81			
Ac .70				

Chapter 6

A Cluster Analysis of Personality Types

> *Questions*: Are there natural groupings of the persons in the sample? Are there certain personality typologies which emerge? What are the characteristics on the tests which seem to describe these groupings? What more do they tell us about the nature of these students and what they bring to the nurse practitioner role?

In the last chapter we devised some four-fold typologies based upon prior ideas about androgynous competencies and their relationship to the nurse practitioner. Although these methods proved very useful, they were based upon an arbitrary division of people and may not truly represent the configurations into which the practitioners fall.

Modern computer techniques allow us to learn if there are groupings or clusters of individuals whose scores seem to move together. Such a cluster approach has aroused much interest in recent years because it can deal with people, rather than items as does factor analysis, and because it emphasizes "natural" groupings. However, computational problems are immense, and it is not always feasible to carry out such an approach. Fortunately, Rex Green, a data consultant who assisted the project, had previously used a method of cluster analysis which he believed suitable for this data (see Appendix C).

The Method

The goal of the analysis was to empirically define distinct groups of nurse practitioners according to the adjectives they checked on the ACL, using their initial test. The statistical technique used identified clusters of persons, subsets whose numbers were more alike or closer to each other in the way they described themselves than they were to members outside the cluster. They might be said to represent types of people in the sample.

The best set of groupings contained six clusters, which were then related to the Adjective Check List scales scores on all 24 scales in order to better understand their significance. A computer program for discriminant analysis[1] allowed us to select the "best" set of discriminating variables for describing the clusters. Finally the newly identified groups were compared using *a priori* contrasts in one-way ANOVAS using the CPI scores as dependent variables. This last analysis provided some degree of construct validation for the selection of the groups and the interpretation of group differences.

Analytical Results

The discriminant analysis suggested that the clusters differed from each other in ways described by three different functions. The first function seemed to indicate the number of adjectives checked; Clusters 1 and 5 checked more adjectives than Clusters 2 and 6.

The second function was more complex, but appeared to be based on differences in androgyny, with Clusters 1 and 2 high, an Cluster 6 low (more detail is presented in Appendix C).

The third function distinguished between Cluster 3 and 4. Since Cluster 3 had very high scores on autonomy and aggressiveness, and Cluster 4 was low on these scales but high on self-control, abasement, and deference, this function seemed to identify unmitigated agency and unmitigated communion.

This remarkable pattern of results which bears out the analysis in the previous chapter was supported by findings from the other tests. Each of these clusters and their scores is presented in Table 6-1.

One way of condensing and summarizing this massive amount of data is to look at the scores of the different clusters on the three factors from the ACL. The factors, it will be recalled, are groupings of the scale scores which are highly related to each other. We have called these factors, Effective Nurturance, Ego Assertion, and Dependable Perseverance. Figure 6-1 presents a graphic comparison of the six clusters on these three factors. Clusters 1 and 2 which are somewhat alike in their high scores are compared with Clusters 5 and 6 which have lower scores. Clusters 3 and 4 are compared to show how their profiles move in opposite directions.

The findings about the clusters may be summarized in the following ways:

> Cluster 1: N = 51. This is the largest group and appears to be the most mature[2] and adequate. The average age of those in this cluster is 32.6. They have well-balanced scores, being highest on personal adjustment, but also appear to be persevering and reflective individuals, who are considerate and resourceful. They are reasonably autonomous and assertive. Their intellectual ability is outstanding, and they appear both self-confident and responsible. Two ratios are of particular interest: they have a clear and favorable predominance of favorable to unfavorable adjectives, and of self-confidence to self-control. They have high scores on all three ACL factors, well above the mean.
>
> Cluster 2: N = 22. One gains the impression that this is a younger version of Cluster 1. The average age is 28.2 Their strengths are in a similar direction, but are not as pronounced. Scores are high in self-confidence, adjustment, dominance, and nurturance. The members of this group are more change-oriented. Although they use fewer adjectives to

describe themselves, they use effective ones. Their scores on the ACL factors are very similar, except that they are low on Perseverance. The CPI scores are almost identical to Cluster 1, so these two groups were combined in the a priori contrasts.

Cluster 3 (Unmitigated Agency): N = 36. This group is younger, with an average age of 29, and are more immature and impulsive. Although independent and desirous of doing things their own way, they also lean on others for support. They are aggressive and self-centered, with little interest in others. They are self-confident, but often responsible primarily to themselves. They have little interest in making a good impression. Their profile of ACL factors is unbalanced; they are low on Effective Nurturance, high on Ego Assertion, and at the mean on Perseverance.

Cluster 4 (Unmitigated Communion) N = 17. This is a group with primarily communion traits. They lack confidence and self-assertion. Neither adventurous nor outgoing, they appear controlled, inhibited and reserved. Their abasement and deference scores are high. They do not appear to have anxious or neurotic symptoms, but are well integrated in a conventional way. Their average age is 35. Their profile on ACL factors runs counter to Cluster 3; they are high in Effective Nurturance, very low on Ego Assertion, and high on Perseverance.

Cluster 5: N = 16. This group is consistently less adequate than Cluster 1, and its percentile scores in desirable traits are slightly lower. They use many adjectives to describe themselves. They are restless rather than risk-taking, and appear dependent, seeking support. They have few extreme scores, but simply seem less able, less outgoing, and less confident a group. The average age is 33. If Cluster 1 is a highly adequate group, and Cluster 6 is least adequate, Cluster 5 is intermediate. The three ACL factor scores are all near the norm for the standardized scores, around the 50th percentile.

Cluster 6: N = 10. This seems to be the least adequate group, whose self-confidence is low, and who say little that is favorable about themselves. In general, their scores are lower than those of other clusters. They are low in dominance and achievement, as well as nuturance and affiliation. They appear to be hostile and irritable, have many complaints, and lack a sense of responsibility to others. They are mainly under 30, with an average age of 28.9. They have low scores on both Effective Nurturance and Ego Assertion, though they are high on Perseverance.

Of the six groups, three have a mean age in the early thirties, around

Table 6-1

Personality Test ANOVAS for the Cluster Groups

Variable	CLUSTERS 1	2	3	4	5	6	F	p	Planned Contrasts[a]
ACL (N = 152)									
No. Adjectives Checked	56.2	43.4	57.1	52.2	76.1	47.2	40.5	.000	2
Defensiveness	56.7	53.2	44.7	52.1	53.1	42.0	17.5	.000	1 & 2
Favorable Adj.	60.7	58.2	50.0	52.1	60.6	44.2	15.4	.000	1
Unfavorable Adj.	41.7	45.2	53.9	45.6	52.9	52.7	18.7	.000	1 & 2
Self Confidence	57.3	57.6	55.9	43.1	51.3	44.8	10.7	.000	1 & 2
Self Control	55.6	50.5	44.8	60.5	50.4	49.3	12.7	.000	2
Lability	50.9	55.3	47.6	44.8	57.4	44.1	6.7	.000	1
Personal Adjustment	56.7	53.0	45.1	53.4	51.9	44.7	14.3	.000	1 & 2
Achievement	58.8	59.5	56.6	49.2	56.4	47.5	7.4	.000	1 & 2
Dominance	59.6	59.5	57.4	42.7	48.4	44.1	17.6	.000	1 & 2
Endurance	57.0	54.1	51.9	52.8	50.1	48.4	3.6	.004	1
Orderliness	54.8	51.4	51.3	55.0	53.1	50.3	-	-	-

Table 6-1

Personality Test ANOVAS for the Cluster Groups

Variable	CLUSTERS 1	2	3	4	5	6	F	p	Planned Contrasts[a]
Intraception	57.8	53.9	47.8	52.2	54.4	45.8	9.4	.000	1 & 2
Nurturance	53.9	52.5	41.5	54.9	49.1	41.6	16.1	.000	1 & 2
Affiliation	52.7	51.3	39.4	47.9	55.6	39.0	18.4	.000	1 & 2
Heterosexuality	54.3	51.7	53.2	45.4	54.2	42.1	7.6	.000	1 & 2
Exhibitionism	52.6	53.6	56.2	36.4	44.1	43.8	14.5	.000	1 & 2
Autonomy	52.7	56.4	61.6	37.9	53.4	46.4	19.3	.000	1 & 2
Aggression	49.6	53.2	60.6	41.7	48.6	54.2	14.8	.000	2
Change	52.2	59.2	53.9	40.2	52.4	46.2	10.1	.000	1 & 2
Succorance	40.4	44.1	50.6	54.4	54.9	53.7	15.5	.000	1
Abasement	41.3	43.6	41.9	60.5	53.3	54.2	15.6	.000	1 & 2
Deference	46.6	44.0	40.3	60.5	48.6	50.6	13.4	.000	2
Counseling Readiness	51.5	54.1	60.4	52.2	56.6	52.1	4.7	.001	2
Factor 2 Ego Assertion	55.2	56.9	57.7	41.7	50.5	46.5	20.0	.000	1 & 2

Table 6-1

Personality Test ANOVAS for the Cluster Groups

Variable	CLUSTERS 1	2	3	4	5	6	F	p	Planned Contrasts[a]
Factor 3 Dependable Perseverance	52.2	47.7	50.4	55.7	48.3	52.1	3.1	.006	2
CPI (N = 131)									
Dominance	59.6	54.4	55.1	47.1	54.9	49.1	5.1	.000	1 & 2
Capacity for Status	58.4	59.5	53.2	50.7	57.2	52.8	3.3	.009	1
Sociability	57.8	54.7	54.3	47.0	54.2	50.2	3.6	.004	1 & 2
Social Presence	60.9	61.7	59.2	52.5	58.2	56.6	2.9	.02	2
Self-Acceptance	60.9	60.5	59.4	50.3	58.7	57.2	3.2	.01	2
Well-Being	52.6	52.8	43.6	49.9	48.8	43.9	6.4	.000	1 & 2
Responsibility	48.7	47.5	39.8	49.1	43.6	41.0	5.7	.000	1 & 2
Socialization	47.2	48.3	40.5	48.5	44.8	43.2	3.3	.008	2
Self-Control	51.3	52.7	41.0	53.8	44.8	44.9	9.2	.000	1 & 2
Tolerance	56.6	58.1	49.5	54.4	54.8	48.4	4.8	.001	1
Good Impression	50.3	51.8	40.6	44.9	43.1	40.6	6.8	.001	1

Table 6-1

Personality Test ANOVAS for the Cluster Groups

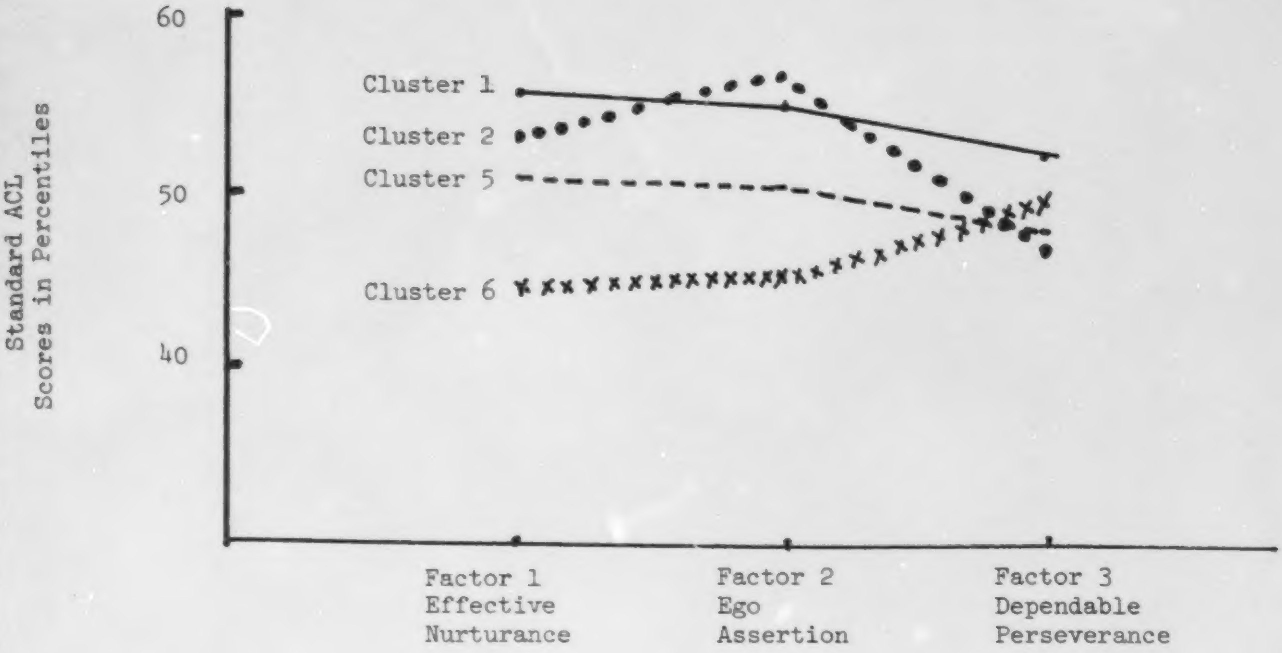
Variable	CLUSTERS						F	p	Planned Contracts[a]
	1	2	3	4	5	6			
Communality	51.1	48.7	46.4	52.5	50.6	47.9	-	-	2
Achieve. via Conformance	56.3	55.8	45.1	50.6	52.2	47.5	10.8	.000	1 & 2
Achieve. via Independence	60.7	64.3	59.5	64.1	63.1	63.0	-	-	-
Intellectual Efficiency	59.0	58.9	54.3	53.6	57.4	53.6	-	-	-
Psych.-Mindedness	60.4	59.7	59.9	59.6	60.5	58.2	-	-	-
Flexibility	58.0	60.9	59.9	62.1	62.0	59.5	-	-	-
Femininity	50.2	51.5	48.9	54.7	51.5	48.5	-	-	-
Factor 1 Reliable Responsibility	52.6	53.1	43.3	50.5	47.85	44.4	12.4	.000	1 & 2
Factor 2 Dominant Individualism	59.5	58.1	56.2	49.5	56.6	53.2	5.5	.000	1 & 2

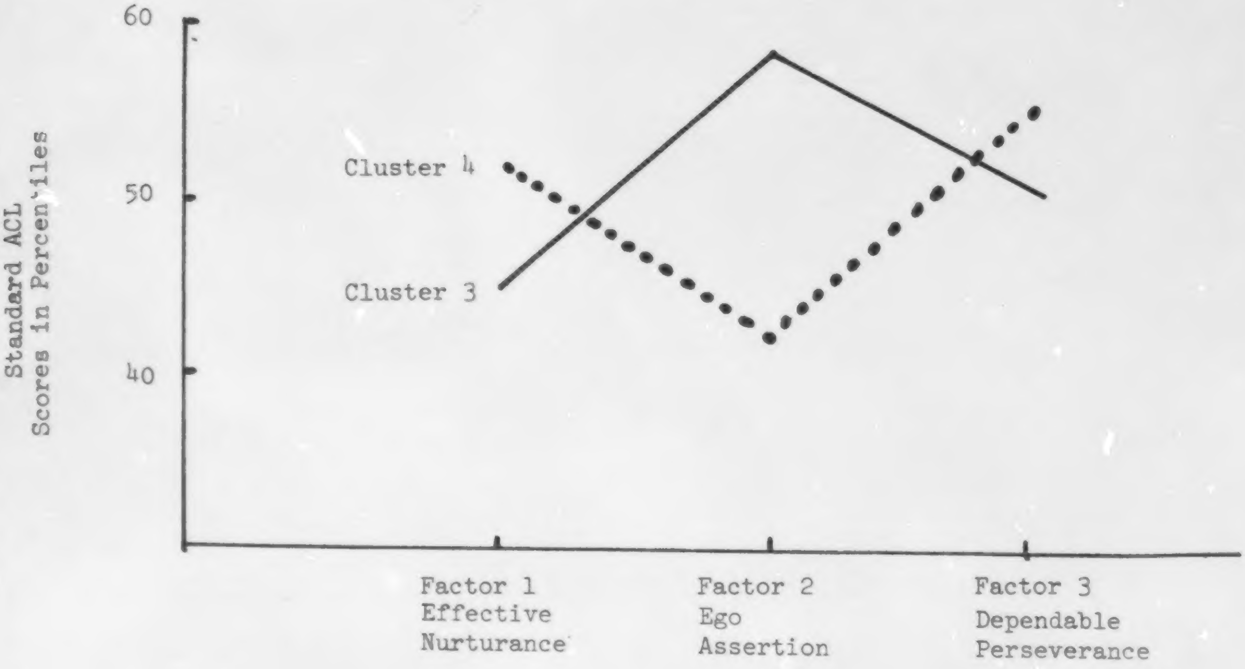
[a] Planned Contrast 1 = Cluster 1 and 2 vs. Cluster 6 $<$ .05

Planned Contrast 2 = Cluster 3 vs. Cluster 4 $<$ .05

Figure 6-1

Profiles of Cluster Groups on Major ACL Factors





33, and three have a mean age in the late twenties, around 29. There is a mature, androgynous group at each age level (Clusters 1 and 2), and a less adequate group at each age level (5 and 6). The younger practitioners tend to be more agentic (Cluster 3) while the older practitioners are more likely to be communion oriented. This is clearly illustrated in Table 6-2, which shows the actual Agency and Communion adjusted scale scores for each cluster.

Table 6-2

Agency and Communion Competency Scores for Cluster Groups

Variable	Clusters 1	2	3	4	5	6	F	p	Planned Contrast[a]
N = 112									
Agency	16.2	17.6	14.7	9.7	12.3	11.5	16.2	.001	1 & 2
Communion	19.9	22.9	17.5	20.4	14.2	18.2	0.8	.000	1 & 2

[a] Planned Contrast 1 = Cluster 1 and 2 vs. Cluster 6, $<$ .05
Planned Contrast 2 = Cluster 3 vs. Cluster 4, $<$ .05

In understanding these scores, both the height of score and direction and extent of the ratio between Agency and Communion need to be examined and taken into account. In doing this we see confirmation that the two mature Clusters, 1 and 2, are indeed androgynously competent; they have high (and close to highest) scores in both competencies. Clusters 5 and 6, the less adequate groups, tend to have the lowest scores on both competencies, although Cluster 6 seems relatively strong on Communion, which may suggest an unexpected strength of this group. Cluster 3, which we have described as agentic, has only a moderate score on this scale, reminding us that Agency measures competency, and thus does not reflect unmitigated agency which may be more characteristic of this cluster. Cluster 4 is high on Communion, as we might expect, but is remarkably low on Agency competencies, demonstrating the striking imbalance so characteristic of this group.

Our respect for the strength of the clusters' discriminating powers grows when we examine Table 6-3. Here we compare three scores based on the Rotter I-E scale, scores from scales on assertiveness and self-reliance, and scale scores from the POI. Although the Rotter did not show significant differences at Period 4 (the follow-up), the POI did, so these are included. Because of the reduced size of the sample, it is not possible to get the same degree of significance at the later date.

It will be recalled that a low score on the Rotter I-E scale indicates internality, so it is of interest that Cluster 3, the agentic group has a high external score.

Table 6-3

Mean Scores on the Rotter and POI for the Cluster Groups

Variable	Clusters 1	2	3	4	5	6	F	p	Planned Contrast[a]
Per 1 N = 112									
Rotter I-E	7.4	7.9	11.9	9.8	9.5	10.6	5.5	.000	1
Lack Assertion	.2	.4	.7	1.0	.4	.6	3.1	.01	-
Lack Self-Reliance	.3	.5	1.1	.6	.9	.8	3.2	.01	-
POI Per 1									
Time Competence	55.3	56.1	50.8	51.9	47.2	45.1	3.8	.003	1
Inner Dir.	54.2	56.8	53.7	50.5	53.4	50.2	2.4	.05	1
Self-Acceptance	55.9	59.2	54.2	49.3	55.7	49.8	2.7	.02	1
Self-Regard	58.3	58.1	52.0	52.4	55.2	52.3	5.0	.000	1
Accept. of Aggress.	53.3	52.3	53.9	43.8	53.9	49.2	4.4	.001	2
POI Per 4 N = 100									
Inner Dir.	55.4	60.0	55.1	54.6	54.2	50.3	2.7	.03	1
Existentiality	51.1	57.7	51.8	52.7	55.0	48.3	2.5	.04	1
Spontan.	57.8	61.8	57.2	57.6	56.6	49.1	2.6	.03	1
Self-Accept.	50.1	54.9	49.4	50.9	47.8	44.8	2.4	.04	1
Capacity for Intimate Contact	54.2	60.9	53.5	52.9	56.2	52.0	3.0	.01	1

[a] Planned Contrast 1 = Cluster 1, 2 vs. 6, $<$.05
Planned Contrast 2 = Cluster 3 vs. 4, $<$.05

On the POI, almost all the differences are between the mature androgynous and the less mature groups, with the mature groups showing more capabilities. However, Cluster 4 does not appear to accept aggression as well. At Period 4, the major subtest of the POI, Inner Direction, still shows a similar distinction between Clusters 1 and 2 and the low Cluster 6, with the mature groups also being more inner directed. The other subtests listed are of lesser importance, although the direction seems to be the same.

Competencies

Are these clusters related to competency in nurse practitioner skills? When we examined the mean competency scores of each of the cluster groups, an interesting progression occurred during the course of training (see Table 6-4). The clusters increasingly revealed significant differences in nurse practitioner competencies as time went by. There were no significant differences between them at entry. By the time they completed the six-month training period, the Total NP Competency score, as well as Satisfaction with Current Role, had an overall significant *F*. Cluster 1 had the highest scores, while Cluster 4, the communion cluster was lowest. By Period 3, both Staff and Physician Relationships showed significant differences, and Current Role Satisfaction was added in Period 4. Most of the significant contrasts were between Cluster 3 and Cluster 4, the agentic and communion clusters. The communion cluster group repeatedly had low scores as did Cluster 5. The androgynous cluster repeatedly had high scores, but Cluster 6 was by no means always low. Still, Total NP Competency at Period 4 showed significant differences for both planned contrasts.

We can only conclude that the clusters revealed some underlying dimensions that affected competence, and that this relationship increased and became clearer with experience.

Table 6-4

Cluster Groups and Nurse Competency Scores

NP Competencies	CLUSTERS 1	2	3	4	5	6	F	p	Planned Contrasts[a]
N - 111 (CE Students Only)									
Period 2									
Current Role Satisfaction	23.4	19.8	19.3	18.2	19.5	19.0	3.5	.005	-
Total NP Competency	52.1	46.7	45.4	39.5	43.4	43.3	3.7	.004	-
Period 3									
Non-medical Staff Relationships	7.1	6.2	6.5	5.9	3.2	7.7	4.0	.003	-
Physician Relationships	9.1	7.8	6.6	7.0	4.3	8.3	4.3	.002	-
Total NP Competency	58.7	52.7	52.5	50.4	44.0	58.2	2.9	.02	-
Period 4									
Non-medical Staff Relationships	6.9	6.9	6.4	4.8	5.6	6.3	2.8	.02	2
Physician Relationships	8.9	8.6	7.7	8.5	6.6	6.3	3.1	.01	1
Current Role Satisfaction	25.8	24.9	24.2	21.6	21.8	22.7	3.0	.01	1
Total NP Competency	58.9	57.5	55.8	48.1	50.5	51.0	3.1	.01	1, 2

[a] Significant Contrast 1 = Clusters 1 and 2 vs. Cluster 6, $<$ .05
Significant Contrast 2 = Cluster 3 vs. Cluster 4, $<$ .05

Most other comparisons revealed no significant differences between the clusters, but a few were of interest in their possible implications. Because the Loevinger ego development test has only nominal categories, it was difficult and sometimes not very helpful to undertake the standard type of analysis used in this study. As an alternative, we examined the proportion of individuals in each cluster who were in upper developmental categories (Conscientious and above) and those who were in lower developmental categories (Transitional and below). The results, given in percentages, may be seen in Table 6-5, $\chi^2(5) = 11.90$, $p < .05$.

Table 6-5

Distribution of Loevinger Ego Developmental Levels
Among the Cluster Groups

	Cluster					
Variable	1	2	3	4	5	6
Loevinger Ego Development Levels						
Lower Levels (Transitional and below)	36%	37%	64%	39%	50%	89%
Upper Levels (Conscientious and above)	64%	63%	36%	61%	50%	11%

This evidence corroborated and gave validity to the conclusions we had reached about the nature of the clusters--that they reflected developmental maturity. Clusters 1 and 2, which we had designated the most mature and the most androgynous, had the highest proportion of high developmental scores. Cluster 6 had the lowest, and this too was as expected. Cluster 4, the communion oriented cluster was also high, emphasizing the maturity of this group. Cluster 5 was again intermediate, while Cluster 3, the agentic cluster, had more low scores than any group except Cluster 6. This was as might have been predicted, but was particularly of interest since the Loevinger test is so different in conception and scoring from the other tests.

One other finding was of particular interest in relation to Cluster 4, the communion cluster. During the post-training interview, we asked the practitioners how they felt about taking responsibility. Some only liked an activity if they were in charge, while others liked a limited amount of responsibility, but not too much and not too often. At a significant level ($F = 3.7$, $p = .004$, df = 5). the clusters differed on this characteristic with Cluster 1 the highest in liking to take responsibility, and Cluster 4 the lowest. Cluster 3 was also high. Both 1 and 3 were significantly different from Cluster 4. This seemed to indicate again that those in Cluster

4 were a mature and dependable group, but were not likely to be individuals who liked to be in charge, dominate, or to work independently.

Finally, although the cluster analysis was reported only for the women in the sample, the four men in the academic and continuing education sample each fell into a different cluster.

Maturity

We learn something about maturity and age differences when we compare the ACL profiles of the two clusters which appeared to be mature and androgynous (Clusters 1 and 2), but which differed in average age. In Cluster 1, the older group, over 46% of the group were over 35 years of age, but in Cluster 2, 57% were 27 or under and only 10% were 35 or over. Those in Cluster 1 checked more adjectives to describe themselves, possibly indicating that they see themselves as possessing more distinct qualities.

Two ratios on the ACL often proved enlightening in examining characteristics of maturity. The first was the proportion of favorable to unfavorable adjectives. With mature age, favorable adjectives predominated for Cluster 1 (the 61st percentile), and there was a low ratio of unfavorable adjectives (in the 42nd percentile). While favorable adjectives still predominated in Cluster 2, the younger group, the spread between them was not as wide, the number of favorable adjectives was not as great, and the number of unfavorable ones was higher. The significance of this ratio can also be seen by looking at the spread and height of the percentiles of the other clusters. Cluster 6, the least adequate cluster, had the unfavorable adjectives exceeding favorable ones, indicating the poor self-concept of this group. Clusters 3 and 4 had similar numbers of favorable adjectives, but the agentic group had a slightly higher proportion of unfavorable ones.

A second ratio which seemed significant in indicating maturity was that between self-confidence and self-control; it seemed favorable if each was high, and if self-control did not exceed self-confidence. Cluster 1, for example, scored at the 57th percentile on self-confidence, and at the 56th percentile on self-control. Cluster 2, its parallel, has equally high self-confidence, but less self-control, which seemed to indicate that self-control was a feature of maturity or age. This conclusion was reenforced by looking at Clusters 3 and 4. Cluster 3, the agentic cluster, was strong on self-confidence (56th percentile), but low on self-control. The reverse was true of Cluster 4, which seemed to be too low on self-confidence, and perhaps overbalanced in the direction of too much self-control (61st percentile). Cluster 6 was low on each, with a slight predominance of self-control.

Summary

The cluster analysis, by showing natural groupings of practitioners, has greatly expanded our understanding of the sample. We can now conclude more about the quality of the students, the nature of the tests, and the validity of the androgynous measures.

There seemed to be several types of students. A high proportion of the practitioners (59%) were in the high mature or fairly mature and androgynous group. Only a small proportion (7%) were in the inadequate or immature group. Twenty-four percent were agentic and 11% were communion oriented.

Clusters 1 and 2, containing almost half the students, appeared to be th most outstanding and integrated. Since Cluster 2 also had many younger women, a comparison of the two clusters gave indications of how the scales reflected maturity and change with age.

The mature, integrated clusters were superior in their reported sense of competency in being nurse practitioners. All the clusters, however, had fairly high nurse practitioner competencies. Cluster 4, the communion cluster, had lower scores on several competencies. One explanation may be that the individuals in the communion cluster did not like to have responsiblity or be the person in charge, and as time passed and experience increased, this lack became more pronounced and handicapping. The relationship between cluster type and nurse practitioner competency increased during the two years after entry into the program.

Two ratios of scores on the ACL appear to be helpful indicators of maturity. We found that maturity was more characteristic of a high proportion of favorable adjectives in relation to unfavorable adjectives, and a high and even ratio of self-confidence to self-control, with self-confidence predominating.

The concept of androgyny has now been approached from three different vantage points. The typologies developed to measure androgynous competency, androgynous maturity, and the cluster groupings have all pointed to similar findings, and have confirmed the validity of agentic and communion orientations. It is of particular significance that these patterns have occurred in the clusters, since they represent uncontrived groupings.

Chapter 6 - Notes

[1] See Chapter 23, "Discriminant Analysis," in Statistical Package for the Social Sciences (Second Edition), by Norman Nie, C. Hadlai Hull, Jean Jenkins, Karin Steinbrenner, and Dale H. Bent. New York: McGraw-Hill Company, 1975.

[2] Mature, as used in this chapter, refers in a very general way to an integrated, effectively functioning human being. The scale scores, which describe Cluster 1, seem to represent more mature individuals than other clusters. For a more detailed discussion of maturity, see Health, Douglas H., Maturity and Competence, New York: Gardner Press, Inc., 1977, Chapters 1 and 2.

Chapter 7

Changes in Nurse Practitioners

Questions: How are practitioners changed by the training? Do they change in autonomy? Do they change in personality? Do they change in self-concept and in their sense of competence?

At the beginning of the program, two opposing sets of predications might have been made concerning change in the practitioners, each predicating different outcomes.

In discussions with previous graduates, with the faculty, and with practitioners employed in the field, there were frequent reports of great personal change as a result of practitioner training and experience. For example, one faculty member reported seeing a former student who had been working several months. "She seems like a different person. Before she was interesting and capable, but a little scattered. Now she walks with confidence, seems to know where she's going, and is really exciting to talk to."

It was believed by those who held this view that the new work role would be so challenging and satisfying to many students that they would show greater self-confidence, autonomy, and capability. Since the practitioners would be assuming increased management of their own patients, as well as performing in a more independent manner, this should have a reciprocal effect on the personality of the individuals involved. Because of the requirements of the role, they would become more self-confident, independent, and assertive. They would be resocialized by the role.

Opposed to this point of view were the conclusions of other investigators who studied change and continuity of personality in adult life. One psychologist who had interviewed executives who had a special fellowship year at MIT said, "I think you're going to be disappointed in the amount of change you will find. Human beings seem to be remarkably stable." Other scientists, such as Brim, and Veroff and Feld[1] believe very little change occurs in adult life. They admit that roles change, and role performance changes take place, but argue that this has little effect on enduring personality traits.

We were able to observe which of these positions characterized our data by comparing the practitioners' changes on the various measures from entry to follow-up two years later. This could be done in two ways: 1) by comparing the mean scores of those who took the tests at Period 1 and those who took the tests at Period 4; or (2) by comparing the change in scores of the same individuals who took the tests each time. Both methods give valid information, but the latter method is more precise. However, since it results in a smaller sample, significant results are more difficult to achieve. We will rely primarily on the second method, examining both personality traits and competence data.

Changes in Personality

In general, the traits measured by our personality tests proved to be amazingly stable. The profiles of the practitioner scores, using test results derived from test periods two years apart, were very similar and often could scarcely be distinguished from each other. However, there were significant differences on several characteristics, and by and large these were in the predicted direction, although the differences were often small.

On the Adjective Check List, practitioners who took the test both at entry and two years later, after they had been employed for over a year, showed significantly[2] higher scores on dominance, self-confidence, autonomy, and achievement--all related scales which indicate an increase in self-confident assertiveness. Their scores went down on the traits of deference, abasement, and succorance. This is in accord with our prediction that the practitioner role brings out the characteristics of autonomy and outgoing self-confidence. In addition, the practitioners increased the number of favorable adjectives they used to describe themselves, as well as the number of adjectives they checked. They seem to have become more expansive, with a more favorable self-concept. In most instances, these effects were more pronounced at the final testing than at the end of the training period, when this test was also administered.

The CPI showed significant changes on only three scales; the scores were lower on tolerance, self-control and socialization. One might say that the practitioners became less controlled, and more in touch with their own impulses. Two of these traits, self-control and socialization, were below the mean score for most people to begin with, so it is not clear what these changes mean. They were small changes, never more than one or two percentile points.

The POI measures inner-directedness and various aspects of self-actualization. It is a measure which our experience showed to be very sensitive to agentic aspects of the personality and often reflects change as a result of a meaningful and involving experience, such as an encounter group. The practitioners changed significantly on five of the POI scales, including the major scale, which measures inner-directedness. They became not only more inner-directed, but more self-actualizing, more self-accepting, and showed greater capacity for intimate contact. In addition they increased in the ratio of inner-directed to other-directed responses. This indicates increased independence; in some cases it may denote excessive independence.

No differences were observed on the Rotter locus of control scale, which measures a form of inner-directedness which depends upon reinforcement from others. Apparently the practitioners felt more in charge, and had a sense of setting their own course, but did not observe a parallel reflection of this feeling in the actions of others.

There were also no changes in ego developmental levels over the two-year period. This is in accord with other studies which suggests that this is a very stable measure which does not easily reflect change.

Changes in Competency

We naturally expected and hoped that the practitioners would feel more competent as a result of their training, and would gain greater security in the practitioner role. A number of them entered the program with considerable competence either as a result of in-service training or as a result of previous informal programs. These individuals would be less likely to show as much change as less experienced students. Our instrument, a self-report questionnaire, was administered at all four testing periods, so we are able to study the pattern of change in competence as well as the magnitude of change from entry to follow-up.

The pattern of change can be seen in Figure 7-1. Using a repeated measures analysis of variance, each competency changed significantly ($p \leq .001$). In almost all instances, the sense of competency consistently increased in all dimensions. The total score, by reflecting a summary of all of the scales, was perhaps the best overall indicator of trends. It showed modest change in total competence from entry to end of training, but indicated that the six-month period after the practitioner was employed was when the greatest increase in competency took place. Apparently this was a significant period; either it allowed the practitioner to experience, practice, and consolidate initial learning of skills and attitudes which were gained in the training period, or it posed new challenges and offered wider experiences which were themselves potent forces for change. Probably both trends were present, judging by the comments which were reported in Chapter 3. In discussing the important months after they left the training program, the practitioners noted that they gained much greater confidence in their clinical skills, and found it reassuring to actually deal with the realities they had previously worried about. Other programs have found a year to be needed for adequate training and this necesary passage of time may be reflected in these figures.

There was a slight increase in competency from Period 3 to Period 4. Apparently there was some improvement over this approximately 9-month period, but the major gains seem to have been made by Period 3.

When we examined the competencies separately, we saw some differing trends. There was a pronounced drop in satisfaction and self-esteem in the current practitioner role which was experienced by the trainees at the end of their training at Period 2. At this time they often reported they were tired from the demanding program, anxious about employment (many were looking for jobs), and still uncertain about their clinical skills. They were also more realistic about themselves and their abilities than when they entered the program. In a number of instances, individuals learned they were not as skillful in some practitioner skills as they had initially thought. The ratings at Period 2 reflect both realism and discouragement.

The actual competencies themselves showed an improvement during this period. Patient care and counseling competencies improved greatly, as did clinical skills, and relations with physicians. Relations with other staff members, including referral skills and institutional management skills, did not improve much until the practitioners were out in the field working. Somewhat surprisingly, clinical assessment skills showed only modest improvement after the initial training period. This emphasizes once again the importance of a training program longer than six months; students wanted more clinical experience, but did not find many opportunities for extensive improvement after the training period was over.

Although Figure 7-1 represents a matched (and therefore small) sample for which complete data for all four periods was available, a larger, unmatched sample for whom it was possible to compare group means for each competency for each period showed almost identical profiles. The variation of average scores from those in Figure 7-1 was small and unimportant, indicating that the profiles presented here are indeed representative of the total sample.

There was no significant change in commitment over the four periods, largely because the student entered the program with such a high degree of commitment and showed little change. All but 10% of the students were at the top two points on a five-point scale. On a perfect five-point scale for commitment, the entering group mean was 4.75, and the mean became 4.5 by Period 4. Almost 75% of the practitioners showed no change in commitment. They entered with a very high degree of commitment and, by and large, maintained this high degree of commitment. A very few, faced with realistic factors and decisions, changed in commitment.

Histograms often present a more vivid illustration of the degree of change which takes place in individuals. Figure 7-2 is a picture of the typical changes that practitioners indicated in their sense of competency in patient care between Period 1 and Period 4. Although one practitioner still felt inadequate at Period 4, the great majority of women and men had increased in competency, moving upward on the scale to cluster much more tightly at the high competence end. Similar patterns of change were evident for each of the other competencies.

Figure 7-1

Changes in Competencies Across Periods

(All changes were significant across 4 periods)

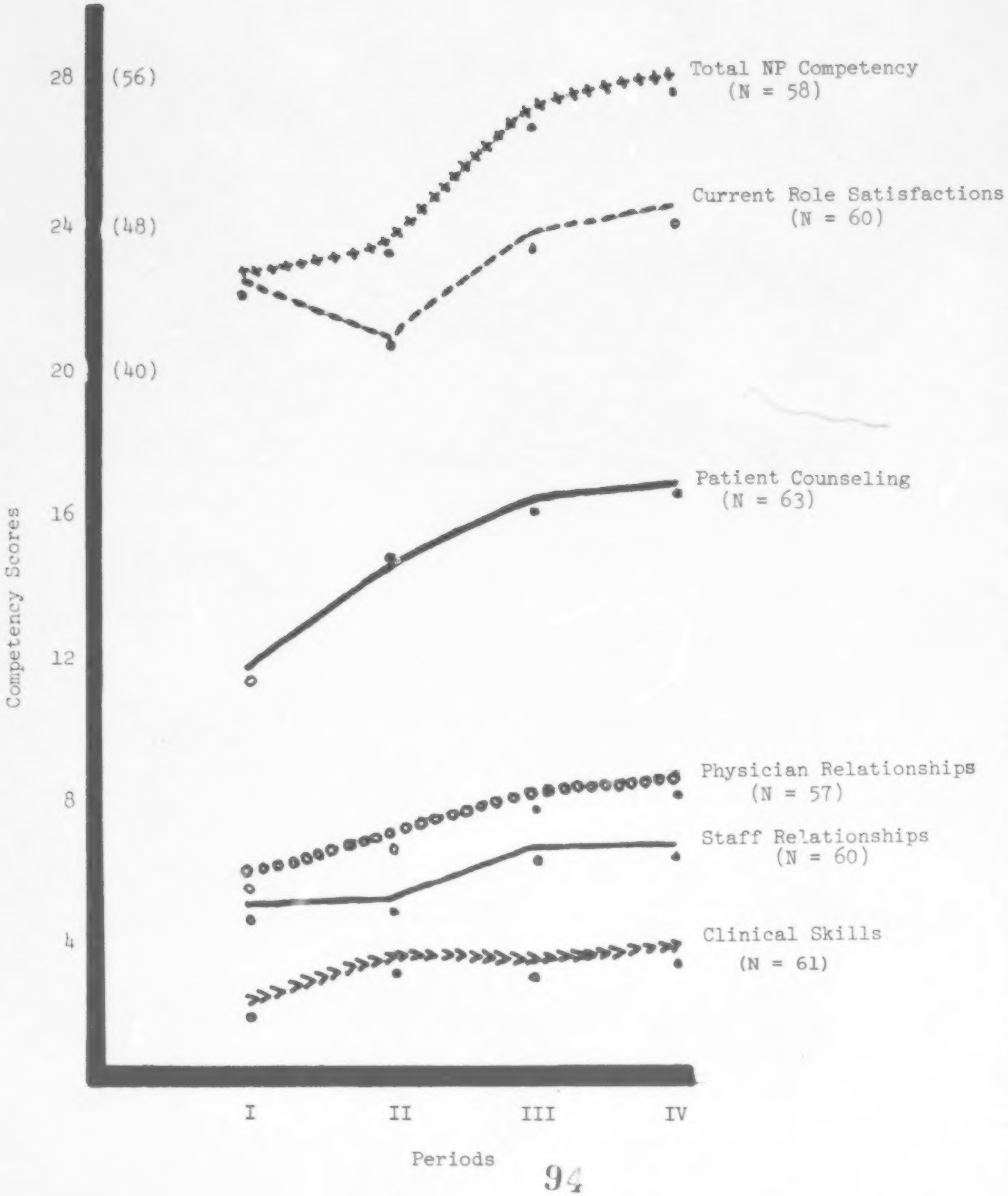


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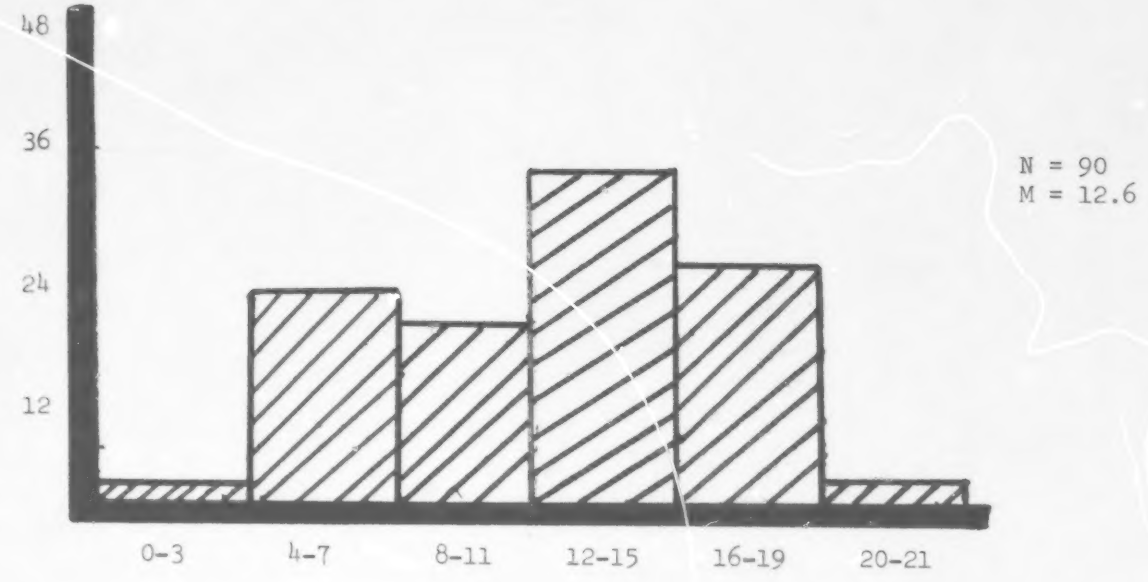
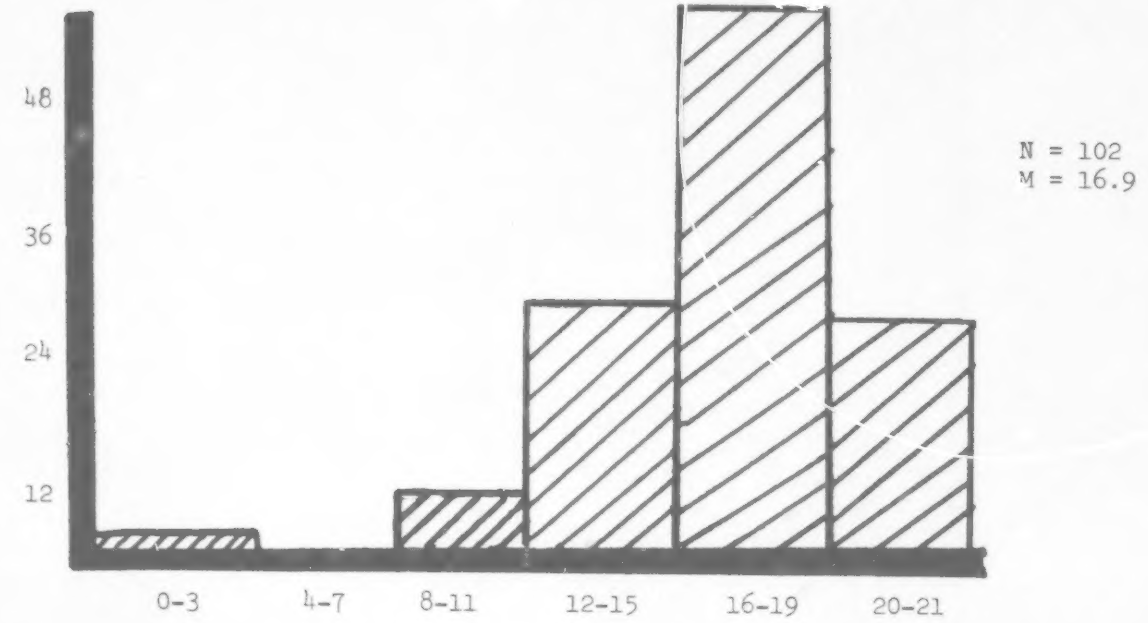
Figure 7-2
Frequency Histogram of NP Competency Scores
Periods 1 & 4



Patient Counseling Period 1



Patient Counseling Period 4

Summary

In an earlier chapter, we noted that increased self-confidence and increased satisfaction with nursing as a career were two outstanding outcomes which practitioners attributed to their training and new employment. While some of the changes were evident at the end of the training period, the activity and fatigue experienced at that point were not conducive to measuring the long-term effects of being and practicing as a practitioner, so we looked to the 15-month follow-up to determine whether more profound personality and competency changes had taken place, or whether earlier gains had been maintained. We also looked to see if there were echoes of the increased sense of assertiveness, autonomy, and improved personal relationships which the practitioners emphasized in their questionnaire responses.

The major personality changes we found were in self-concept and were in the predicted direction toward more assertiveness, autonomy, and self-confidence. The practitioners viewed themselves as less deferent and self-abasing, which are desirable changes for a practitioner.

They had a stronger sense of inner direction, which seemed to be reflected in a sense of living in accord with their personal values and needs, and being able to accept their own weaknesses. This development of self-regard and self-acceptance was accompanied by an increased capacity for intimate interpersonal relations, and comfort in being with another person without undue expectations.

In general, personality characteristics were remarkably stable, and changes occurred mainly in self-appraisal. Being put into a more demanding role, along with good training for this role, resulted in changes in self-concept and in competence.

A control group would have been especially useful in telling us if such personality change was simply normal change over a two-year period of time or whether it was indeed due to the socialization process into the practitioner role. Perhaps the best approach is to interpret the changes as steps toward maturity which were greatly facilitated both by socialization into the nurse practitioner role and by the sense of competence which the practitioner increasingly gained through practice.

Chapter 7 - Notes

[1] Brim, O.G., Jr., "Socialization Through the Life Cycle," in O.G. Brim, Jr. and S. Wheeler, Socialization After Childhood: Two Essays, New York: John Whiley, 1966, 3-49. See also Joseph Veroff and Sheila Feld, Marriage and Work in America, New York: Van Nostrand-Reinhold Co., 1970.

[2] Significance was tested by means of a t-test for repeated measures. N = 98 for the ACL, 80 for the CPI, and 99 for the POI.

Chapter 8

The Competent Practitioner

> Questions: Are the most competent nurse practitioners characterized by distinctive personality patterns? What are the personality characteristics in an individual which enhance the full development of competence in various aspects of the practitioner role? How are the various competencies, including clinical competence, related to each other?

How well a practitioner actually performs in the role is a critical consideration which concerns planners, employers, patients, and those who train practitioners. Unfortunately, there were no objective criteria or field measures of competence, since the project was not originally designed to develop and evaluate such objective criteria. There were, however, behavioral reports by the practitioners of their practices, and these were studied and will be reported separately by Elaine Adamson.

In this aspect of the study we used subjective reports of competence which the practitioners made about their own skills. An instrument was developed in cooperation with the faculty which listed the skills which they hoped practitioners had or would acquire.

These competencies were grouped into four categories, and the scores from each category were then added together for a total competency score.

1. Patient Counseling and Rapport (21 items): These items referred primarily to confidence in counseling and communicating with patients. They also measured confidence in being responsible, and in coping with responsibility for others.

2. Non-medical Staff Relationships (10 items): Items expressed competence in dealing with others, with staff, with institutions, and with changing institutions.

3. Physician Relationships (11 items): Items measured sense of ease in dealing with physicians, including assertiveness and poise.

4. Current Role Satisfaction (31 items): These items measured self-esteem in the new role, confidence in acting within the practitioner role, hope and optimism for the future. Low scores identified those who felt diffuse, rebellious, or lacked direction.

5. Total NP Competence (73 items): Items on the above scales were summed to give a measure of total competency. Patient Care and Role Satisfactions had more items, and thus were more heavily weighed in this score.

The White Competency Inventory was administered at each of the four periods in the program, and as shown by the preceding chapter, recorded a steady and encouraging growth of competence throughout the two-year period. Most of the change in competence took place by the sixth month after completion of the training, or about a year after beginning the program.

Originally a subjective rating of the NP's own competence was used with reluctance and viewed with some suspicion. There was concern that the practitioners would tend to distort their competence ratings in a favorable direction. With time, however, our confidence in the measure grew and it became apparent that it had advantages which made it more desirable in certain ways than a competence rating made by others. A person's self-assessment of competence is an important motivator of behavior, and may be influential in determining commitment to a field. A person with a low opinion of his or her own competence may be more apt to be dissatisfied with the training or with the job, and more likely to leave the field. This is a desirable result, since it is preferable that only the genuinely competent practice. Whether the person is actually competent or not is a separate issue from the question of who remains in practice as a nurse practitioner. The person who believes he or she is doing a poor job may be more apt to give up practitioner employment, and the person who feels suited and competent will be more apt to attempt to continue practice.

In addition, our confidence in the validity of the measure increased with repeated use. The practitioner role is one which has extensive feedback from patients, physicians, other staff, and employers. In most settings there are many indicators of competence such as repeat patient visits, which indirectly tell the practitioner about the patients' satisfaction with treatment. When there is more than one practitioner in a setting, they discuss clinical judgments and outcomes. We believe, although it is difficult to validate, that there is a close correlation between actual and self-perceived competence, and that for many purposes a self-report of competence is superior since it governs the practitioner's choices and actions. The reader can test his own feelings about the measure by noting the relationships and associations with it which emerge in this chapter.

Recently there has been renewed interest in competence as an assessment concept, because of its role as a "sentinel," standing and mediating between personality inclinations and situational demands,1 reflecting both inner traits and outer opportunities. By this we mean that the sense of competence seems to embody not only motives and interests, but represents certain behavioral skills which affect how one copes with the environment. It may reflect, in turn, how the environment responds to these skills.

Thus the results of this chapter have both theoretical and practical consequences. We want to understand not only how competence influences practitioner effectiveness and retention, but also the broader theoretical question of how self-concept influences behavior.

Qualities Related to Competence

Approximately 100 variables were correlated with the competency scales from Period 4 and the best of these were included in a step-wise multiple regression analysis for each competency. This allowed us to predict final competence and to see what variables were related to it. The aim was to see what model best fitted the data. The order of entry of variables into the equation was based on selecting the variable having the highest partial correlation with the dependent variable, after the effects of previous independent variables were removed. The original 100 variables included (a) all the personality measures, (b) descriptive variables such as educational level and work experience, and (c) interview data, such as motives for training, coping ability, and desire for responsibility. Since only 75 variables could be handled at one time by the computer program in use, two multiple regressions were computed, with the ACL scales included in the second run.

The competency scales were themselves related to each other. Intercorrelations between the scales ran from .45 to .65. A person who felt competent in one area was thus likely to feel competent in other areas as well. Separate regressions are presented for each competence area.

Patient Counseling Competency

Skill and comfort in communicating with and counseling patients is one of the most important practitioner attributes. The personality traits and aspects most highly correlated with feeling competent in this area may be seen in Table 8-1.

Practitioners who are highly agentic, that is, who are self-confident initiators, seem to be also confident in their counseling skills. This suggests that simply being receptive and passive and interested in listening to others is not enough for good patient care. One must question, take the lead, be willing to initiate suggestions and action. The CPI scale Dominance also correlated .36 with this competency; its influence seemed similar to agency. Age also seems to be related to feeling competent in patient care. Although age can mean different things, this would seem to suggest that maturity plays a part in this skill, an impression confirmed by *r* of .27 of patient care competency with the total item rating on the Loevinger test of ego development, which might be considered a maturity measure.[2] The POI scale, Feeling Reactivity, is a measure of sensitivity to one's own needs and feelings. Thus the foremost elements in patient care and communication skill seem to be self-confidence and initiative, maturity, self-awareness, and sensitivity.

Table 8-1

Variables Associated with Competence in Patient Counseling

Variables	Multiple R	Simple r	Beta
Agency	.36*	.36	.30
Age	.47*	.30	.31
POI - Feeling Reactivity	.51*	.23	.27
Training Motive - Responsibility	.56*	-.22	-.23
CPI Sociability	.60*	.20	.22

* $\underline{p} \leq .05$

When ACL scales and factors were included in the second multiple regression correlation, some similarities appear. [Not all personality scales were repeated in this analysis, just the CPI and POI.]

One factor, ACL Factor 4, had a correlation of .42 with Patient Counseling Competency. ACL Factor 4[3] is based on a combination of achievement, order, endurance, dominance, favorable adjectives, self-confidence, defensiveness, and intraception. It is thus a mixture of scales from the assertive, nurturant, and persevering factors, and was included because it seemed the most androgynous and mature factor, and could be used in place of the typologies. To distinguish it from other variables we called it Effective Maturity. It was more powerful when the individual did not too strongly desire the practitioner role because of the independence it offered, but was aware of her own feelings, was persevering, and showed self-reliant initiative. Although the scales were different, this second regression pointed to conclusions similar to those derived from the first regression outcome. Self-confident initiative, maturity, and knowing oneself seem to be essential attributes for the person to feel competent in dealing with patients.

Table 8-2

Variables Related to Competence in Patient Counseling (ACL Included)

Variables	Multiple R	Simple r	Beta
ACL Factor 4, Effective Maturity	.42*	.42	.39
Training Motive - Independence	.51*	-.09	-.35

POI - Feeling Reactivity	.57*	.29	.35
ACL Endurance	.63*	.33	.30

* $p \leq .05$

Non-Medical Staff Relationships

Individuals high on this competence tended to agree with statements that they were able to make referrals, did not feel uncertain or inadequate in relations with others and felt capable in facilitating institutional change. The multiple regression analysis documents the need for poise and assertiveness in order to do this well.

Table 8-3

Personality Variables Associated with Competency
in Staff Relationships

Variables	Multiple R	Simple r	Beta
Lack of Assertion	.27*	-.27	-.28
CPI Social Presence	.35*	.21	.22

* $p \leq .05$

Since the correlation is negative, the first variable indicates that those high in assertion are most competent; the correlation increases with the addition of a variable indicating poise and social presence. In other words, those who lack a sense of poise and assertiveness tend to be those who feel inadequate in dealing with others and with institutional change. Our earlier finding that practitioners in general feel more confident and assertive after the training program has specific relevance to this variable.

When ACL variables are include in Table 8-4, we come to similar conclusions.

Table 8-4

Variables (Including ACL) Associated with Competency
in Staff Relationships

Variables	Multiple R	Simple r	Beta
ACL Autonomy	.33*	.33	.73

Variables	Multiple R	Simple r	Beta
ACL Aggression	.53*	-.06	-.58

*p < .05

This competence is greater for individuals who are autonomous, but are not overly aggressive. In both multiple regressions, assertiveness is modulated by another variable.

Physician Relationships

Items relevant to this competence concerned comfort and autonomy in dealing with physicians. The most important of the variables associated with this competency seem to be androgyny and spontaneity. The first scale, androgyny (Σ) is not the earlier androgyny category, but is the result of adding the Agency and Communion competency scores together. Thus it reflects high competency when both are considered jointly, and serve as an ordinal measure of androgyny.[4] This was one more measure which we tried, which in this case, proved relevant.

Table 8-5

Variables Associated with Competency
Physician Relationship

Variables	Multiple R	Simple r	Beta
Androgyny (Σ)	.27*	.27	.27
POI Spontaneity	.42*	.25	.25

* p < .05

When the multiple regression analysis was done which included ACL scales, the picture did not change greatly. The primary variable, with a correlation of .40 was ACL Factor 4 (Effective Maturity), which we previously identified as a factor similar to the nominal definition of androgyny used earlier (it correlated .59 with the androgyny measure, Androgyny (Σ) used in Table 8-5). Wanting autonomous responsibility was negatively correlated with this competence, suggesting pleasure in working with and collaborating with others. A negative correlation with counseling readiness suggests a person who is well-adjusted without strong personality problems. The practitioner who feels competent in dealing with physicians seems to have effective androgynous competencies, is spontaneous, and is nonthreatening.

Table 8-6

Variables Associated with Competence
Physician Relationships (ACL Added)

Variables	Multiple R	Simple r	Beta
ACL Factor 4, Effective Maturity	.40*	.40	.39
Training Motive - Responsibility	.51*	-.30	-.35
ACL Counseling Readiness	.58*	-.27	-.28

* $p < .05$

Current Role Satisfaction

Those high in current role satisfaction are those who feel competent in the new role and who have a sense of fit between their abilities and their work performance. The items they checked indicated that they have high self-esteem, feel a new expansion in knowledge, a readiness to take risks, and are happy in the new role.

Table 8-7

Variables Associated with Current Role Satisfaction

Variables (N = 74)	Multiple R	Simple r	Beta
Agency	.32*	.32	.36
POI Time Ratio	.41*	-.22	-.27

* $p < .05$

Individuals are more likely to be satisfied if they are assertive and confident. The time competence ratio is a puzzling finding since it suggests that those who have difficulty shedding the regrets and resentments of the past are more satisfied. Perhaps it is best to see those high in role satisfaction as confident people who are readily satisfied with the practitioner skills.

The ACL scores appearing in Table 8-8 do not contribute much to this, but appear to echo the findings. Those who are not self-abasing are most likely to be satisfied (abasement is negatively but highly correlated, -.70, to variables such as self-confidence, dominance, and agency). Those who, in addition, had lower socioeconomic status as children but are responsible and dependable are also likely to be satisfied.

Total NP Competency

Since total competency is a summary score of all the other competencies, it reflects the myriad facets of the varied skills and attitudes which the nurse practitioner develops. It is perhaps the best single score which describes the sources of competency.

Table 8-8

Variables Associated with Current Role Satisfaction
(ACL included)

Variables (N = 56)	Multiple R	Simple r	Beta
ACL Abasement	.49*	-.49	.42
Socioeconomic Status Factor	.59*	-.23	-.30
CPI Responsibility	.63*	.20	.33

* $p < .05$

Table 8-9

Variables Associated with Total NP Competency

Variables	Multiple R	Simple r	Beta
Agency	.34*	.34	.31
CPI Femininity	.38	-.23	-.23
Training Motive - Need Training	.43	.13	.20
Age	.47	.16	.20

* $p < .05$

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Table 8-10

Variables Associated with Total NP Competency (ACL Added)

Variables	Multiple R	Simple r	Beta
ACL Factor 4, Effectve Maturity Self-confidence, Dominance, Achievement, Favorable Adjectives, Order, Endurance, Defensiveness, Intraception	.47*	.47	.56
Training Motive - Independence	.54*	-.07	-.32
POI - Feeling Reactivity	.60*	.28	.26

* $p < .05$

The variables which contribute to the multiple regression of .47 in Table 8-9 account for almost a fourth of the variance. Those which are most prominent emphasize the importance of an initiating, active, mature individual, who entered the program believing additional training was necessary to achieve her goals, but who was not new to the field; self-confidence is tempered by age.

The additional analysis which includes the ACL scales and factors, Table 8-10, duplicates this finding. The individual who is self-confident and mature, but not too highly motivated by the need for independence is most likely to report numerous competencies. If this is balanced by self-knowledge and sensitivity, it is even more likely.

In retrospect several additional conclusions about nurse practitioner competency stand out as important. First, the new scale variable of Agency is a key variable in predicting competency in the nurse practitioner. The self-confident activity aspect is repeatedly confirmed as a relevant characteristic. Second, adding motivational measures, personality measures, and demographic characteristics together as predictors has proved useful. Personality traits seem the most powerful predictors, but the others suggest the leavening effects which are also important. For example, being independent is important, but when it is too prominant, or unaccompanied by other socially effective competencies, it may be a liability. Third, maturity (as represented by age) also appears to be a moderating factor. Fourth, the addition of the ACL factors was responsible for a higher percentage of variance accounted for in the multiple regression. The measure we have called Effective Maturity was very powerful in predicting competency.

It is useful to take cognizance of variables which did not appear related to the competencies. For example, neither work experience nor education seemed to be relevant. This may seem surprising to some. The internality measures, such as the Rotter locus of control and the POI inner-directedness scale both had low but positive relationships but did not appear in the stepwise regressions. Intellectual ability as measured by the intellectual efficiency scale did not appear. In a separate analysis, it was found that no significant relationship existed between competence and liking of one's job. However, significant relationships did appear between clinical skills, commitment and competence. These will be discussed next.

Clinical Skills and Commitment

The practitioners rated their clinical skills on a five-point scale. As was illustrated in Figure 7-1, clinical competence changed most during the initial training period. Since some faculty believed that clinical skills were the basis of a general sense of competency, we examined the relationship between clinical skills and other competencies. All were positive, significant, and modest ranging between .22 (patient counseling) to a high of .37 (current role satisfaction). Total competence had a correlation of .27, staff relationships were .26, and physician relationships were .30. Adequate clinical skills seemed to be most related to general satisfaction with the role, but were also related to the other competencies.

The relationship of commitment to the competencies was also positive, but of a lesser order of magnitude. It was not related to patient counseling competency (*r* = .09), had a slight relationship to total competency (.20) and was most related to staff relationships (.24) and current satisfaction (.26). The relationship to physician relationships was also low (.16). Commitment seems to be definitely related to competence, but apparently other factors help to determine commitment. There was almost no relationship, however, between clinical skills and commitment (*r* = .09). Instead, there is a circular relationship. Clinical skills relate to current role satisfaction, which in turn relate to commitment. Something else (probably the other competencies) must contribute to role satisfaction if commitment is to result.

It is pertinent to remember that commitment is quite high across all the periods, while competency increases, and it is only at the final testing that commitment is significantly related to the competencies.

All the competencies are highly related to each other. Table 8-10 presents the correlations between them at the final testing, including a summary of the clinical competency and commitment data. This table suggests that the other competencies are more important than clinical competencies in determining role satisfaction.

Table 8-11

Interrelationship of Nurse Practitioner Competencies and Commitment

	Competencies				
	Patient Counsel.	Staff Relationships	Physician Relation.	Current Role Satisfaction	Total NP Comp.
Competencies (Period 4)			Correlations (*r*)		
Patient Counseling	-	.54	.56	.65	.78
Staff Relationships	.54	-	.46	.58	.75
Physician Relationships	.56	.46	-	.59	.76
Role Satisfaction	.65	.58	.59	-	.80
Total NP Competency	.78	.75	.76	.80	-
Clinical Skills	.23	.26	.30	.37	.27
Commitment	.09	.24	.16	.26	.20

Summary

The practitioners who feel most competent seem to have certain personality characteristics in common. They are balanced, mature people. Though assertive and confident, they are also sensitive. They know themselves and their feelings, but are aware of the feelings of others. They are not too insistent on working independently, but have the poise and autonomy to ask for the things they need from others. They are self-confident people of initiative who are very aware of emotions, and who are dependable and persevering.

The various areas of practioner competency are moderately related to each other, but each area has its own distinctive characteristics. They are less strongly related to clinical skills competency or commitment, indicating that these two variables are minor influences in determining role satisfaction or total competency. It might also be inferred that clinical skills and commitment are different from the competencies.

Chapter 8 - Notes

[1] A good summary of many recent studies may be found in a chapter in the Annual Review of Psychology, Vol. 29, 1978, "Toward Assessment of Personal Competence and Incompetence in Life Situations," by Norman D. Sundberg, Lonnie R. Snowden, and William R. Reynolds. Maturity and Competence by Douglas H. Health, New York: Gardner Press, 1977 also discusses this concept.

[2] The Loevinger test uses nominal categories which do not easily lend themselves to meaningful use in this analysis. Instead, an ordinal total item rating (TIR) was used, which sums the scores on various categories; a higher rating is indicative of higher ego development. Such a rating has proved useful in other studies, e.g., Stuart H. Hauser, "Loevinger's Model and Measure of Ego Development: A Critical Review," Psychology Bulletin (1976), 83, 5; 928-955, particularly p. 934.

[3] We believed that it was better to use factor scales derived from other studies, rather than to rely on the fortuitous agreement of our own sample. Factors found by Frank E. McLaughlin in "Personality Changes Through Alternate Group Leadership," Nursing Research (1971) 20.2; 123-130, described UCSF undergraduate nursing students, and factors found in McLaughlin and White, "Small Groups Functioning Under Six Different Leadership Formats," Nursing Research (1973), 22.1; 37-54, described graduate students at UCSF. Our first three factors were from the latter study, while ACL Factor 4 was from the first study. A more general description of ACL factors may be found in George V.C. Parker, and E.I. Megargee, "Fator Analytic Studies of the Adjective Check List," Proceedings, 75th Annual Convention, APA 1967, 211-212.

[4] This measure reflects strength rather than balance, and is a less adequate measure.

Chapter 9

Commitment and Other Outcomes

> Questions: What are the characteristics of the successful nurse practitioner? What leads to commitment in the nurse practioner role? What factors distinguish between those who work as practitioners and those who do not?

A fundamental question of the research program was one we kept asking and returning to: what are the characteristics of a successful nurse practitioner? To answer this we needed to ask an even more difficult question: what is meant by the term "successful" practitioner? We chose to define "successful" empirically in several distinct ways. One way which was previously discussed was in terms of competence. A second definition had to do with being committed to the role of nurse practitioner. The trainees had rated themselves on commitment at each of the four testing periods, so it was possible to identify those with a high or a low commitment to the role. While this was a very subjective rating at the first period (and was very high for most individuals) it gradually began to reflect more and more the realities experienced by the students as they worked with patients in different settings, and for different employers. Like their self-reported feelings of competence, it began to reflect their attitude about whether this was an appropriate career choice for them, whether they were performing well, and whether they were likely to find the satisfaction they sought in the new role. By the fourth testing period, their ratings of their commitment to the role reflected in many ways their success in it, and their ability to cope with its trials and stresses.

A third definition of success was a very simple one: was the nurse working as a practitioner? If the individual failed to find and stay in practitioner work, by some some standards he or she was not a successful practitioner. Even if competent or committed, a person who was not a working practitioner might be regarded as less successful in the role.

A fourth consideration was whether they liked their work. A successful practitioner should be in a job that is satisfying; employment is an insufficient criteria of success if one dislikes the job.

Finally, although we believed each of these definitions was worth exploring, we considered that the best definition of "successful" would probably be an index which combined several or all of these. We planned to study committed, working, and satisfied practitioners, and to arrive at an index that would distinguish between the successful and the unsuccessful practitioner.

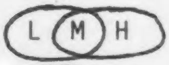
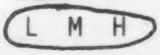
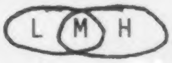
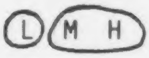
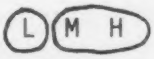
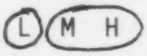
Let us begin by examining the findings from each of these definitions.

Commitment

In attempting to implement a definition concerning commitment one problem arose immediately. Commitment to being a nurse practitioner was not only high when the practitioners entered the program, but it stayed high, often regardless of circumstances. On a 5-point rating scale, average score at entry was 4.7, and this changed only slightly to 4.5 at Period 4. Seventy-four percent of the practitioners experienced no change in their commitment. Such a small range of scores did not lend itself to correlation techniques so that a one-way analysis of variance was used to study the relationship of commitment to the other major variables in the study, including personality scores, nurse practitioner competencies, motives for training, coping scores, age, training stress and socioeconomic background. Only women were used in the analyses in this chapter. The degree of commitment was indicated by three groupings--Low (N = 11), Medium (N = 26), and High (N = 80). The significant differences may be seen in Table 9-1.[1]

Table 9-1

Significant Relationships Between Commitment at Period 4 and Other Variables Using ANOVA

Dependent Variable	Commitment			F^a	Homogeneous Subsets[b]
	Low	Medium	High		
Competencies (Period 4)					
Non-Medical Staff Relationships	4.9	5.8	6.6	4.9***	
Physician Relationships	6.5	7.4	8.3	3.5*	
Total NP Competency	47.7	52.1	56.2	4.56**	
ACL					
Total Adjective Checklist	63.7	53.0	54.1	3.84*	
Unfavorable Adjectives	54.9	46.8	46.4	4.94***	
Heterosexuality	46.7	56.5	52.9	4.26*	

[a] * $p < .05$
** $p < .01$
*** $p < .00$

[b] Means not in the same circles differ significantly from each other.

The relationship of the NP Competencies was analyzed for each of the other three periods in addition to Period 4 which is presented in the table. There were no significant relationships between competence and commitment until Period 3, when Staff Relationships and Total NP Competency were significant, and until Period 4, when these two competencies as well as Physician Relationships were significant. The other competencies do not quite reach significance. This seems to indicate that with skill and experience, competency is increasingly related to commitment. It was not strongly related at entry into the program nor at initial completion of the training, but with work experience the more competent person was also the more committed person.

Those high on commitment checked fewer adjectives in describing themselves. They were more tactful and controlled, as indicated by the lack of unfavorable adjectives. They were also higher on the heterosexuality scale, an interesting finding since this scale has not appeared as relevant before in this study. This scale seems to identify those who enjoy the company of opposite-sex individuals; it has adjectives which characterize a warm, outgoing direct person who enjoys being attractive and charming. The association with commitment is thought provoking and suggests that comfort with being a woman, and enjoyment of men is helpful to the woman practitioner.

A number of ordinal variables were also tested to see if degree of commitment differed among the various groups. Clinical Skills showed almost the same results as the other competencies. Those with differing degrees of commitment showed no significant differences in clinical ability until the final testing ($\underline{H} = 6.5$, $\underline{p} < .02$).[2] That is, clinical competencies had little relationship to commitment until some time and experience had accumulated. Gradually, however, subjective competence was reflected in degree of commitment.

The type of recent work experience before entering the program also affected degree of commitment. Those who had ambulatory rather than inpatient experience were twice as likely to be highly committed (63% vs. 33% respectively), χ^2 (6) = 12.5, $\underline{p} < .05$.

Those who liked their employment were more likely to be highly committed, χ^2 (4) = 11.63, $\underline{p} < .02$. The degree of enjoyment of work was very high for everyone who was employed; so much so that liking work was dropped as a criterion measure. Only five people disliked their work.

To summarize these findings, high commitment is associated with the following:

1. A growing sense of practitioner competency, particularly in staff and physician relationships.
2. A noneffusive but confident, outgoing personality comfortable in male-female relationships.
3. Enjoyment of work.
4. Recent work experience in ambulatory care before entering the program.

High commitment was not significantly associated with competency upon entry into the program nor at the end of training.

Several variables of interest failed to demonstrate any significant differences among those with different degrees of commitment. Neither age, length of work experience, or educational level influenced commitment. Motives for entering the program had no effect; there were no differences between pediatric and maternity students. Androgyny and developmental level were not influential, nor was style of coping.

Working as a Practitioner

Obtaining an accurate picture of the work status of our students was not easy since their situations shifted and fluctuated with time. Inquiries spaced only a few weeks apart often resulted in different totals. Those who returned informational inquiries were slightly more likely to be employed, but by and large, the questionnaire sample was a good representation of the total sample. Table 9-2 presents the employment picture as reflected in replies to a questionnaire, and as reflected in a complete telephone survey at Period 4.

Table 9-2

Nurse Practitioner Employment Figures Gained by Questionnaire and Survey

	Returned Questionnaires		Total Sample	
How Employed	N	%	N	%
NP Full-time	53	55	70	54
NP Part-time[a]	21	22	23	18
RN Full-time	9	9	15	12
RN Part-time	4	4	5	4
College Teaching	1	1	3	2
College Student	3	3	3	2
Not Seeking Employment[b]	5	5	8	6
Temporarily Unemployed	1	1	3	2
TOTAL	97	100	130	100

[a] Some of these were full-time employees, but were employed as nurse practitioners only part of this time.

[b] Those listed as not seeking employment were travelling, at home with young children, pregnant, or otherwise temporarily withdrawn from the labor force.

Of the sample, 72% were employed as nurse practitioners, while 16% were in nonpractitioner inpatient positions, such as staff nurse, head nurse, or supervisor. Many of the latter said that they were using some of their practitioner skills. For comparison purposes, these assorted categories were reduced to three:

1. Those working as inpatient nurses or supervisors, but not as practitioners (the RNs);

2. Those working as nurse practitioners (the NPs);

3. Those not working in either of these capacities, but who were attending college, teaching, or childrearing. We called this group the In-Betweens (BET). This group was not broken down into smaller categories because of the limited number of people involved.

The differences found between these three categories of employment status may be found in Table 9-3. The total numbers in each category may vary by tests depending on completed and usable forms.

Table 9-3

Employment Status as Related to
Competency, Personality and Training Variables (ANOVA)

Variables	RN N = 20	BET N = 15	NP N = 77	F[a]	Homogeneous Subsets[b] RN BET NP 1 2 3
NP Competencies - Period 4					
Non-Medical Staff Relationships	4.9	6.6	6.5	5.4**	(1 2 3)
Current Role Satisfaction	20.8	24.9	24.2	4.9**	(1 2 3)
Total NP Competency	48.6	55.0	55.7	3.8*	(1 2) (2 3)
ACL					
Heterosexuality	46.9	54.9	53.3	4.4**	(1) (2 3)
Exhibitionism	45.7	53.8	50.2	2.9*	(1 2 3)

Variables	RN $\underline{N} = 20$	BET $\underline{N} = 15$	NP $\underline{N} = 77$	F[a]	Homogeneous Subsets[b]		
					RN 1	BET 2	NP 3
CPI							
Social Presence	54.2	63.6	58.5	4.2*	1	3	2
Factor 2 Dominant Individualism	52.6	61.3	55.9	3.6*	1	3	2
Lacks Assertion	.69	.85	.38	3.5*	1	2	3
POI							
Self-Regard	53.2	59.8	55.5	4.5**	1	3	2
Nature of Man	50.8	56.5	49.1	5.3**	2	1	2
Interview							
Training Motive Responsibility	.05	.13	.31	3.6*	1	2	3
Like Responsibility	2.3	3.3	2.7	7.8***	1	3	2
Training Stress Rating	3.7	6.2	4.5	4.6**	1	3	2

[a] * $\underline{p} < .05$
** $\underline{p} < .01$
*** $\underline{p} < .001$

[b] Means which are significantly different from each other are not enclosed within the same circle.

Those who were employed as nurses but not as practitioners tended to feel less competent as practitioners by Period 4; they had not differed earlier in competency ratings. They were lower on Heterosexuality and Exhibitionism. They also appeared to be less poised and self-confident. They were not as assertive, nor did they like being in authority as much. They experienced more stress during training (lower ratings indicate higher stress). In general they seemed to have less confidence and were less engaged with others, a finding which echoes the characteristics of the less committed.

Those who were not currently employed as nurses because of family, student, or teaching responsibilities emerge as an interesting group which the nursing profession may wish to keep in mind. They consistently emphasized their interest in responsibility; their personality test scores were as high or higher than those of the working nurse practitioners. They appeared to be more self-confident and poised.

In addition, this group experienced less stress during training. Fewer of them had ambulatory experience before entering the program (χ^2 [6] = 13, 88, $p = .03$).

The Committed Nurse Practitioner

In a third and final analysis, we examined the responses of those who worked as nurse practitioners, but who varied in commitment. Because so few people in the total sample were both low in commitment and working as non-practitioners, it became obvious that a simple index would not yield any new information at this point, and that many of the subsamples would be inadequate in size. Instead, a more stringent comparison using degree of commitment among those with nurse practitioner jobs was used.

As may be seen in Table 9-4, findings were fewer in number, but were somewhat similar to previous outcomes. Highly committed working nurse practitioners were more competent in all areas than those with low commitment. These differences were not apparent either at entrance into the program or at completion of training, but began to appear by the 6-month follow-up (three of the competencies were significant $<.05$ and the other two at $<.10$). With time and experience those with higher commitment were more likely to be highly competent. This was also true of clinical skills (Kruskal-Wallis test, $H = 8.9$, $p = .01$).

Table 9-4

Significant Differences Among Committed Working Nurse Practitioners on Competency and Personality Variables

Dependent Variable	Commitment Low $N = 10$	 Medium $N = 18$	 High $N = 16$	F^a	Homogeneous Subsets[b]
Competencies (Period 4)					
Patient Care	15.1	15.7	17.2	3.48*	(L M H)
Staff Relationships	5.0	6.2	6.7	3.61*	(L M) (M H)
Physician Relationships	6.6	7.9	8.4	2.9*	(L M H)
Current Role Satisfaction	21.1	24.2	24.4	2.9*	(L M H)
Total NP Competence	47.8	54.9	56.8	4.9**	(L M) (M H)

POI					
Feeling Reactivity	50.4	56.8	55.1	2.8[c]	(L) (M H)
ACL					
Heterosexuality	45.6	57.0	52.6	4.6**	(L (H) M)
CPI					
Self-Acceptance	47.0	59.9	57.7	2.9*	(L M H)

[a] * $p \leq .05$
** $p \leq .01$

[b] Means which are significantly dfferent from each other are not enclosed within the same circle.

[c] $p = .06$

Only three personality variables were significant. Those who were more committed were more sensitive to their own needs and feelings and had higher scores on the Heterosexuality scale, which seemed to indicate an outgoing, confident person who is comfortable with men. They were more self-accepting.

A Chi-square test also revealed that those who were highly committed were more likely to have had ambulatory nursing experience before entering the program χ^2 [6] = 13.1, $p = .04$).

Although many other variables were in the expected direction, none were significant. Such variables as motives for training, extent of previous work experience, educational level, developmental level, etc., appeared to have little relation to commitment.

Discussion

Although earlier definitions of a successful practitioner had to be changed in minor ways because so many practitioners liked their work and were highly committed, we were still able to examine the personality characteristics, entering motives, and training experiences which influenced being committed and working as a practitioner. On all three major definitions of "successful," higher competence was significantly more characteristic of the committed and/or working practitioner.

Since this relationship was not present when students entered the program, or even when they initially completed their training, it appears that these two variables increasingly influenced each other. We believe that degree of competence as a practitioner influences commitment, and that the best definition of a successful practitioner should combine competence and commitment.

What has been striking about the results in this chapter has not been what we have learned, but what we have failed to find. Using the same variables that have been workable and productive in other chapters, we found few qualities or traits which we associated with commitment, although a few more were associated with being employed as a practitioner.

Many personality scales and types were related to being competent. This might suggest that personality variables effect competence, and competence in turn effects commitment.

Summary

In addition to competencies, other characteristics of the successful practitioner were studied, including commitment, working as a practitioner, and a combination of these two. Fewer variables were related to these factors than to competencies. Those with high commitment were more likely to be high in competency after working, score higher on a heterosexual scale indicating a warm, outgoing person comfortable with men, enjoy practitioner work, and have had work experience in an ambulatory clinic before entering the program.

Almost three-quarters of the trainees were employed as practitioners and they differed from those who remained in nonpractitioner positions in ways quite similar to those who were highly committed. They also experienced more stress during training.

The same qualities distinguished those who were both working and committed.

Competence and commitment both seem to be significant characteristics of the successful practitioner, but commitment seems to be influenced by competency over time.

Chapter 9 - Notes

[1] These significant findings could have occurred by chance because of the larger number of ANOVAS on commitment which were not significant. However, subsequent findings reinforce these variables, substantiating their validity.

[2] A Kruskal-Wallis non-parametric ANOVA was used, which may be read from a Chi-square table; it was corrected for tied ranks.

Chapter 10

Work Settings

Questions: What kind of work settings are the practitioners employed in? Do different types of practitioners go to different settings? Does the supportiveness of the work setting effect the practitioner? Do the settings or the support they provide account for changes in the practitioner?

Although some practitioners returned after the training period to their former places of employment to either resume their old jobs or to incorporate practitioner skills and responsibilities into new positions, many of them sought new employment more suitable to their changed skills and outlooks. Most stayed within the San Francisco Bay Area; a few moved to other parts of the country. Their employment was restricted by the opportunities in the geographical area, and it soon became evident that it was easier for the maternity practitioners to obtain jobs than it was for the pediatric practitioners. More of those employed as practitioners were in maternity.

For many it was a new experience to have to seek out jobs, particularly jobs which had not previously existed. Physicians had to be sought out who might be thinking of including a practitioner in their practice. Hospital or clinic administrators needed to be approached and persuasively urged to use practitioners in new situations. Even those who returned to old jobs often had to renegotiate their duties and design new ways of running clinics and establishing personal relations with others with whom they worked. Each of these situations often demanded new skills of independence and autonomy, knowledge of ways to deal with institutional inertia, and the ability to be clear and forthright without being threatening.

Different people, of course, selected different settings for themselves; conversely, different settings probably chose different types of people as employees and as representatives of the settings. Personality, competence, and environment all doubtless interacted in the selection process, and we wanted to learn if there were trends in how this interaction occurred.

That certain types of practitioners tended to gravitate to certain types of settings seemed likely. And once there, we theorized that the general sense of support they received might change their sense of commitment and even their sense of competence.

This chapter concerns our efforts to explore the work settings, the support they gave, and their interactions with the practitioners personalities, competence, and commitment. These are more nebulous problems than other chapters have posed, and the answers will reflect not only this diffuseness, but the complexity and difficulty of answering such broad questions about the interaction of person and environment.

Types of Employment

Information about the types of settings in which practitioners were employed was obtained only from those in the sample who were employed as practitioners. This rather obvious fact accounts for ther being no responses or descriptions from those in the least supportive settings--those in which there was no support for practitioners and none employed. There are also no responses from those who were unemployed--they simply could not meaningfully respond to questions about their job satisfactions or support from others.

The type of health care setting in which the practitioners were employed is indicated in Table 10-1.

Table 10-1

Health Care Settings in Which Practitioners Were Employed at Period 4

Health Care Setting		Number of Practitioners Who Responded
Hospital Outpatient		23
Freestanding Outpatient		
Departments	7	18
Planned Parenthood	8	
Military	3	
Student Health	2	
Public Health Department		22
Private Medical Practice		16
Prepaid Group Practice		13
Other		6
		N = 98

For the sake of convenience we have combined several freestanding outpatient clinics or departments into one group which included community health centers, student centers, military clinics, and planned parenthood clinics. The most frequently chosen settings for employment were hospital outpatient departments (OPD) and public health departments, while fewer practitioners were in freestanding OPDs, in private practice with physicians, or in prepaid group practices, such as Kaiser Permanente.

Did these work settings differ in either the type of practitioners who chose (and were chosen) to work there? Do these initial pairings of people and settings tell us something about preferences?

Such questions might ordinarily be tested by chi-squares but it developed that the numbers in the cells of the various tables were often too small for legitimate chi-squares, so we occasionally used percentages to explore this question, and to reveal any interesting leads which the data might suggest.

As a measure of personality types, we chose the androgynous maturity typology, which used CPI factor scores. Their distribution in the various work settings may be seen below in Table 10-2.[1] Period 3 was used for coding worksettings by Elaine Adamson, and we borrowed this coding from her data.

Table 10-2

Work Settings and Personality Types

		CPI Androgyny Typology			
Work Setting Period 3	N	Androgynous Mature %	Dominant %	Responsible %	Inadequate %
Hospital OPD	(11)	18	0	36	46
Freestanding OPD	(18)	28	33	11	28
Public Health	(14)	42	7	14	36
Private Practice	(6)	36	0	50	14
Prepaid Group	(14)	50	0	17	33
TOTAL N = 67					

Although it was not possible to test for significance, those in the hospital OPD seemed to be least dominant and least mature. Those in private practice were more responsible. Those in the prepaid group and public health settings were a mix of mature and inadequate. We also compared the settings as to how supportive they were of the practitioner. The practitioners rated the work setting on how much support was present. The actual question asked was: "Do you generally feel that people at your current place of employment have supported and helped you to be a nurse practitioner as you would like to be?" Most found their employers and coworkers to be exceedingly supportive as shown in Table 10-3.

The least supportive environments seemed to be the hospital OPDs and public health departments; the most supportive work places were freestanding OPDs, private medical practices, and prepaid group practices.

Table 10-3

Work Setting and Supportiveness of Others

	Work Settings				
Support	Hospital OPD	Freestanding OPD	Public Health	Private Practice	Prepaid Group
"How supportive are the people where you work?	Percentage				
Exceeded expectations (35)	35	77	35	53	45
Helpful, but I had to exert leadership. (17)	17	15	29	33	27
Some hindered or opposed (8)	33	8	29	7	9

There were no significant differences in nurse practitioner competencies between work settings at any period, with the exception of Current Role Satisfaction. An ANOVA found significant differences between the settings at both Period 3 (F [4, 72] = 3.7, p = .008) and Period 4 (F [4, 84] = 3.2, p = .ol). Th major difference (Newman-Keuls test) came from the public health practitioners who were lowest in satisfaction, and the private practice practitioners who were highest. Neither clinical skills nor commitment differed among settings.

Although these findings are only suggestive, they may be summarized as follows:

1. Hospital OPDs appear to be least able to attract mature practitioners. They, together with public health departments, seem to offer least colleague support to the practitioner, if we think of support in terms of such factors as encouragement, recognition, provision of appropriate clinics, patients, and collaborative relationships.

2. Private medical practices seem to attract and select competent individuals and provide a supportive work environment.

3. Freestanding OPDs attract a variety of personality types, and often provide a fairly supportive atmosphere. It is possible that more autonomous practitioners may be attracted to them.

4. Prepaid group practice and public health departments appear to be a mixture of situations, with satisfaction with being a practitioner lowest in public health departments.

It should be emphasized that all the settings were quite diverse, and that all levels of competence and maturity appeared in each. These simply represent broad trends.

Supportive Work Environments

The work settings just described were only loosely related to supportiveness, and encompassed many differing circumstances, so we sought for a more psychologically relevant measure. One of the most potent forces for influencing attitude and self-concept are the attitudes of those around one. If they are supportive, one's own feelings about self and work may be better. We hypothesized that practitioners would feel more competent and committed in a supportive environment, and used the measure of supportive colleagues already discussed in Table 10-3 as one measure of a supportive work environment. The responses did not differ greatly at the 15-month follow-up (Period 4) from those of the 6-month followup (Period 3). Forty-four percent of the practitioners reported very great support from colleagues at work, 26% reported good support, when the practitioners themselves provided some leadership, and 20% reported some opposition; 8% did not respond.

Although we frequently encountered speculation beforehand that the most resistance would come from other nurses or nursing supervisors, the findings indicate that physicians were seen as most resistant, followed by administrators, who tied with nurses and nursing supervisors for second place; aides were perceived as least resistant. A similar picture was painted by the responses when practitioners were asked from whom they would like more support: physicians were most often named, followed by administrators, other nurses, other practitioners, supervisors and, finally, the University itself.

A second support measure was made up from two questions which asked whether the work setting already had nurse practitioners prior to the respondent, or planned to hire more. If the practitioner answered "yes" to either question, she was seen as more supported. We called this measure NP Support as opposed to Work Setting (WS) Support. More than 60% of the practitioners mentioned this type of support in the final questionnaire, and the two support measures correlated .61. There is apparently a strong tendency for supportive settings to have more than one practitioner, or for settings in which there is more than one practitioner to be perceived as supportive.

Between the Period 3 and Period 4 follow-up, the number of work settings planning to hire practitioners more than doubled. Either the practitioners were highly successful in influencing the settings, or practitioners tend to gravitate to more supportive settings; our data does not permit us to know which interpretation is correct.

We examined whether these more direct measures of supportiveness influenced the practitioners' competence or commitment. There were no significant differences at any period in competencies, and only one small difference in commitment ($F = 3.6$, $p = .03$). Those with only modest support at work (neither high nor low) have a lower commitment at Period 4. Perhaps either strong or weak support fortifies commitment, but mixed support saps it.

Although there were some initial differences in the competencies and personalities of those who were selected and did the selection of various work settings, these differences were not major ones. The degree of supportiveness of the setting had little to do with the competence or commitment of those who initially chose and were chosen to work there.

Did it, however, influence those who changed in their sense of competence, commitment or satisfaction? Did a highly supportive setting result in more competence, a greater sense of satisfaction with one's adequacy as a practitioner, a sense that commitment to the role was more possible? We explore this in the next section.

Who Changed in Competence and Commitment?

We believed that the supportiveness of the work setting was very influential for the practitioner, and that a nonsupportive setting could lead to lessened commitment on the practitioner's part. We also believed that those who decreased in competence might be in a less supportive setting.

A different way of stating this is to say that we believed that the practitioner's competence and commitment were determined not merely by personal qualities of the individual herself, but by the responses of others whom she perceived as being supportive or nonsupportive. Whether she felt successful or satisfied as a practitioner was both a function of her own competence and the reactions of the institutional work environment. Perhaps students who left the program moderately committed became more so in a supportive environment.

We attempted to test these ideas using the previously developed measures of competency and commitment. We also had two measures of supportiveness, Work Setting Support and Nurse Practitioner Support. We then developed three measures of change.

1. Competency Change. We measured the change in Total NP Competency from one period to another. We particularly examined whether competency changed from end of training (Period 2) to the 6-month follow-up (Period 3), or the final 15-month follow-up (Period 4). The direction of change was taken into account.

2. Commitment Change. A similar measure was developed to measure change in the sense of commitment at the various periods.

3. Change in Current Satisfaction. Changes in one of the competencies, Current Role Satisfaction, was used to measure how satisfaction with being a practitioner changed. This, too, was measured at Periods 3 and 4, using Period 2 as a base.

Using ANOVAS and t tests, we explored the relationship of setting and supportiveness to change in each of these areas.

Those Who Changed in Competence

Before testing the propositions, we wished to make sure that high change in competency was not simply a function of low competency to begin with. However, there was almost no correlation between original competency score and change in competency. The only exception was a low correlation with Physician Relationship, $r = .23$, $p = .03$. Change in competency was modestly related to high competency at the end; r's ranged from .32 for Total NP Competency to .40 for Staff Relationships, p .002. This simply confirms that those who changed the most tended to change in the direction of higher scores.

Change in competence was not affected by the work settings the practitioners were in, but there was a slight tendency for a more supportive environment to result in more positive change in competency at Period 3, F (2, 63) = 2.4, $p = .09$, contrast of high versus medium and low, $p = .03$. A similar trend existed at Period 4, but was significant at the $p = .08$ level. Supportive colleagues, particularly physicians, seemed to aid the practitioner in increasing her competency.

A t test for Nurse Practitioner Support indicated no differences in competence between supportive and nonsupportive environments.

Changes in Commitment

The work setting in which the practitioner practiced did not influence whether she changed in commitment at Period 4, but was influential at Period 3 in two settings. In her initial position after training, the practitioner who was in a hospital outpatient department or in a public health department decreased significantly in commitment, F (4, 42) = 2.46, $p = .05$. The amount of supportiveness was not directly related to this change.

Changes in Current Role Satisfaction

Again the work settings did not influence change, this time change in the practitioners' current satisfaction. The supportiveness of the work setting did influence the change toward more positive satisfaction. Those who were in a supportive atmosphere had significantly higher positive change in Current Role Satisfaction at both Period 3 and Period 4. Nurse Practitioner Supportiveness did not affect this change.

Summary

These results can be summarized by examining how the measures of support affected changes in the practitioners.

The work settings were not very influential by themselves in changing the practitioners. The only aspect they affected was to lower commitment of the practitioners in hospitals and public health departments.

When a more specific measure of supportiveness in the work setting was used, colleague supportiveness, it seemed to increase practitioners' sense of competence, and their satisfaction in being practitioners, particularly in the initial phases of employment.

Support in the form of other nurse practitioners either currently working with them or anticipated in the future, did not prove to be a differentiating influence and did not effect changes in competence, commitment, or role satisfaction.

Chapter 10 - Notes

[1] Often the total number in a table varies due to "no response" answers, or inability to match responses at follow-up periods with tests taken initially.

Chapter 11

Summary

The past two decades have been periods of far-reaching changes in nursing. Many nurses can still remember the early days of their training when they learned to rise when a doctor entered the room. To talk, as we do now, of a collaborative role, is a considerable modification, and an enormous conceptual shift away from that earlier era.

Within the last decade, nursing has also been responsive to the varied ebbs, currents, and stirrings of the Women's Movement. Some may feel it has not been responsive enough, but the feminist outlook has influenced the gender ratio of the entering student classes, the revaluation of the handmaiden role, and the emerging concern for more adequate use of women's talents. New concern about and a more conscious awareness of women's health problems has also occurred.

Whatever the source of the many changes in nursing, they have found a focus in the new role of nurse practitioner, which has come to represent many things: for some, a different kind of nurse; for others, a shift in doctor-nurse relationsips, or an emphasis on a new kind of health care; and for some, a return to the type of patient care they once thought nursing should provide.

Because the role of nurse practitioner symbolizes so many diverse changes in nursing, it is a very powerful role, but it is not always possible to know from what aspect it derives its power.

In this study we have attempted to learn something about its significance for the attitudes and behavior of those learning the new role. Teasing out the key elements has not been easy, and we often still do not know what is cause and what is effect. We can, however, briefly summarize what some of the major findings were.

1. Evidence from a number of analyses supported the assertion that practitioners who were self-confident and assertive, and combined these qualities with warmth and dependability did better than those who lacked these characteristics or who were capable in only one area alone. The combination of receptive, nurturant qualities with outgoing, confident capacities, which we have called androgynous competency, is possible, common, and successful for the practitioner.

2. Although the sample of undergraduates was small, those in this study seemed less mature in regard to the practitioner role than did those in the continuing education program or the master's

program. The difference seemed to be mainly that of age and experience, since the undergraduates had a median age of 24 while the other programs had a mean age of 32 years. The younger students had lower ego development scores and less mature personality characteristics.

3. The practitioners changed in many ways. They became more dominant, autonomous, self-confident, and achieving. They became less deferent, sef-abasing, and dependent. They thought more positively about themselves. They also became more self-actualized, with a stronger sense of setting their own inner direction. They became less controlled and felt far more competent in the practitioner role than when they entered the program.

4. The most common changes that the practitioners experienced and reported were changes in self-confidence and in increased satisfaction with nursing as a career.

5. Those who felt most competent in the various practitioner skills by the conclusion of the study were likely to be more assertive and self-confident. They also experienced a need for more training as one of their primary motives for becoming a practitioner, and were sensitive to their own needs and feelings. Age, within the rather narrow limits of this study, was positively related to competency.

6. Those who were functioning as nurse practitioners two years after entering the program differed from those who were still inpatient nurses or supervisors, and who were not using their practitioner skills in the following ways:

   a. The nurse practitioners rated themselves more competent in staff relationships, in current role satisfaction, and in total practitioner competency, even though they had not differed on entry ratings.

   b. The nurse practitioners had several personality differences. They were higher on heterosexuality and exhibitionism which suggests comfort and enjoyment in being outgoing and responsive to the opposite sex. They were also higher on social presence, which substantiated their poise and ease, and were more assertive. At entry they were more motivated for practitioner training by a desire for responsibility.

   c. The nurse practitioners were less likely to have experienced stress during the training period than were those still in inpatient care. If stressed, they were more likely to experience growth as well.

7. A small group who were not employed as practitioners because they were rearing children, or were housewives, teachers, or students, were an outstanding group, and very like the nurse practitioners in

personality traits such as high self-regard, social presence, self-confidence, and in desiring autonomous responsibility. They did not appear to have left the role because of inadequate abilities, but were a group of exceptional talent and promise.

8. Those who were more highly committed and were working as nurse practitioners rated themselves as more competent. They were more likely to be highly committed if they had previous experience in ambulatory care. They were also likely to have higher scores on personality traits which indicated comfort in an outgoing, self-confident role.

9. The work setting in which the practitioners were employed attracted certain types of practitioners and affected their sense of commitment and competence in the role. Freestanding clinics, private medical practices, and prepaid group plans were the most supportive of nurse practitioners, while hospital outpatient departments and public health departments were regarded by the practitioners in them as least supportive. The hospital outpatient department were in turn least able to attract the more capable practitioners. Those who chose private medical practice or prepaid group plans felt most competent.

We can now give several answers to the questions posed in the first chapter about the nurse practitioner. More successful nurse practitioners are apt to have outstanding characteristics in a number of personality dimensions. They are poised, assertive, confident--but also responsible and persevering. The balance of superior traits is significant rather than single trait scores. Practitioners who have less balanced characteristics, who are assertive without responsibility, or dependable without initiative and confidence may have more trouble. Those who are below the average on these dimensions of personality consistently do less well as practitioners, though they are often persevering.

Prior education and experience have some effect, but are less influential than might be expected. Some work experience seems helpful in forming standards and prior experience in ambulatory care appears especially useful. One might say that some initial years of experience are wise for the practitioner, but after that, other qualities are more important. Educational level by itself tells us very little; it is not that education is ineffective, but rather that people educate themselves in many diverse ways, and selection committees would do well to look for the qualities they wish, rather than arbitrarily designating the paths by which such qualities may be obtained.

Those who have only an associate degree or diploma training often find their career choices in nursing limited, and consequently welcome practitioner training and do exceptionally well with it. Those with master's degrees have more career choices, and may use their practitioner skills in more peripheral ways. This may be desirable from the point of view of nursing, but does suggest that those who are training practitioners in master's level programs should be clear about their goals, and what they wish to select for.

Maturity and experience seem to be relevant characteristics. Age is important to the extent that it reflects these two characteristics. Developmental level seems influential as well, but the measure we used was not effective enough to recommend widespread use. However the philosophy and thought behind it, and the importance of cognitively complex modes of thinking deserve more attention than has been possible in this study.

Despite the stability of their basic personality structures, the practitioners changed greatly in their self-concept, and this was corroborated by the objective test findings. They became more confident, had greater self-esteem, and felt more competent and capable. Indeed what happened to them as individuals was probably the most important result of the training, and certainly more important than any reward or status they received from the health system.

Perhaps these changes were simply the result of two additional years of age--we cannot know without a control group--but it seems unlikely.

One of the most significant changes was the renewed dedication of the practitioner to their careers and profession. There are few more eloquent tributes to the need for other new roles in nursing than the words of those who found new energy and meaning in their lives because of the changes in their attitudes toward their work. It seemed particularly significant that an enhanced appreciation of nursing was prominently mentioned in the responses when practitioners were asked how their training had been helpful "personally," in addition to being helpful professionally.

However, we should be under no illusions about practitioners being effective agents of change in their institutions and in health care settings. Many would like to be and doubtless some are, but the program offered little training for this purpose, and the practitioners described many instances when they were ineffective in bringing about changes they felt strongly about. One cannot be an agent of change without learning new skills, such as an understanding of the power structure, and this has not commonly been a part of practitioner training. Skills in patient communication are not the same skills as those needed in successful patient advocacy. If we expect practitioners to bring about changes in the health care system they must learn effective approaches to institutional and individual change.

Practitioners who are in their twenties may desire to make room in their lives for other goals, and may choose childrearing or a return to higher education, removing themselves from employment as practitioners. Although limited, the data from this project suggests that the nursing profession should welcome them when they wish to return, since they are individuals of maturity and competence who have simply chosen to enrich other facets of their lives, rather than rejecting or ignoring their practitioner loyalties.

Socialization versus Maturation

Although this report is an inappropriate place to discuss some of the theoretical implications of this study for understanding adult development, one aspect merits emphasis. The maturity of the practitioners may be of special importance since they have to do so much self-socialization into the practitioner role. Because of its novelty, clarity of goals and functions is often lacking for the practitioners. Even when goals are clear, the methods for achieving them may not be, and individuals who become practitioners cannot rely on norms and group expectations as their source of revealed wisdom. Although support networks of other practitioners are very important, the practitioner is not merely acting out a role, but creates and defines this role for others. This requires a high order of ability.

A training program is only the beginning of the practitioner's learning, and there is more to the role than competence in dealing with patients. The receptivity and supportiveness of those with whom the practitioner works are important, and many activities extraneous to patient care will determine how supportive those in the work environment are. Individual competence is basic, but is only a beginning.

Those in private practice with physicians may need to negotiate new methods of financial reimbursement other than salaries; those in public health departments may need to initiate new sources of physician backup for their activities; those in freestanding clinics may have to establish new roles for themselves, and new areas of expertise. Where is this knowledge to come from?

Should practitioner training programs be more thorough (and longer)? Should continuing education departments take this as a responsibility? Should practitiner organizations, journals, and support groups be responsible? Should practitioners be expected to manage themselves?

There are many problems for which this study has no answers--only questions.

While this concluding chapter was being written, a fat envelope arrived from a practitioner in Alaska containing all the forms, tests, and questionnaires that were due from her two years earlier. A note explained that when the post office in the old trading post moved to a new building, the unsent forms were found behind a cabinet. This seemed a fitting closing metaphor. Pioneering roles on the frontier demand much of the individuals in them, but individual excellence has its limits. There are many cracks between the boards in other supporting institutions. These may limit the practitioners' effectiveness unless nursing itself takes a broader, long-range view, or other solutions are found.

Appendix A

Interview Questions

1. What did you do before you came into the program?

   (Probe) Educational experience

   (Probe) Employment

   Did you find it satisfying?

2. How did you happen to change at this particular time?

3. Would you say you found a satisfactory role in nursing and then grew away from it, or would you say you never quite found your niche in nursing?

4. Did you experience any dissatisfaction with taking orders from physicians, or did you feel fairly comfortable with this?

5. How about responsibility? Do you miss having someone assume most of the responsibility, or do you like having lots of responsibility yourself?

6. Have you changed in any way? What has been the greatest change for you?

7. What do you plan doing after the program?

   (Probe) What problems do you anticipate?

   (Probe) How will you handle them?

8. Do you anticipate any changes in your relationships with physicians?

   (Probe) How will you handle this?

9. Has your life or your personal relationships ouside of your job changed in any way?

   (Probe) Do you anticipate any changes?

10. How was the program for you? Was it helpful? Any comments or criticisms?

11. Do you have any suggestions for the research aspect of the program?

12. Are there other areas I should have asked about?

Appendix B

Tests, Scales and Generated Variables Used in the Nurse Practitioner Study

Adjective Check List

Scales

Total number of adjectives checked
Defensiveness
Number of favorable adjectives checked
Number of unfavorable adjectives checked
Self-confidence
Self-control
Lability
Personal adjustment
Achievement
Dominance
Endurance
Order
Intraception
Nurturance
Affiliation
Heterosexuality
Exhibition
Autonomy
Aggression
Change
Succorance
Abasement
Deference
Counseling readiness

Factors

In addition to the 24 regular scales, four factors were used. The first three were similar to the factors in the NP study, and were taken from a study by McLaughlin (see Note 3 in Chapter 8) of graduate nursing students at the University of California, San Francisco; Factor 4 was from another study of McLaughlin's of undergraduate nursing students.

Factor 1 Effective Nurturance

Nurturance, Favorable Adjectives, Defensiveness, Personal Adjustment, Intraception, Self-control, (-) Succorance, (-) Counseling Readiness, (-) Unfavorable Adjectives.

Factor 2 Ego Assertion

Dominance, Self-confidence, Exhibition, Autonomy, Achievement, Aggression, Heterosexuality, (-) Deference, (-) Abasement.

Factor 3 Dependable Perseverance

Order, Endurance, (-) Lability, (-) Change.

Factor 4 Effective Maturity

Achievement, Order, Endurance, Dominance, Favorable Adjectives, Self-confidence, Defensiveness, Intraception.

California Personality Inventory

Scales

Dominance
Capacity for Status
Sociability
Social Presence
Self-acceptance
Sense of Well-being
Responsibility
Socialization
Self-control
Tolerance
Good Impression
Communality
Achievement via Conformance
Achievement via Independence
Intellectual Efficiency
Psychological-mindedness
Flexibility
Femininity

Factors

CPI Factor 1 Reliable Responsibles

Well-being, Responsibility, Self-control, Tolerance, Good Impression and Achievement via Conformance. For individuals, these scores were added together, standardized to a mean of 50, and a standard deviation of 10.

CPI Factor 2 Dominant Individualists

Same as above except scales scores were: Dominance, Capacity for Status, Sociability, Social Presence, and Self-acceptance.

Social Maturity - an index from the CPI based on Gough's formula for constructing an index of Social Maturity. Scores are standardized to a mean of 50.

Personal Orientation Inventory

T_i-T_c Time Ratio
O-I Support Ratio

Time Competent
Inner Directed
Self-actualizing Value
Existentiality
Feeling Reactivity
Spontaneity
Self-regard
Self-acceptance
Nature of Man
Synergy
Acceptance of Aggression
Capacity for Intimate Contact

Rotter I-E Locus of Control Scale

External Control

Lack Assertion - a three-item scale administered with the Rotter

Lack Self-reliance - a six-item scale administered with the Rotter

Loevinger Sentence Completion Test

Stages

Presocial
Impulsive
Self-protective
Transition from self-protective to conformist
Conformist
Transition from conformist to conscientious
Conscientious
Transition from conscientious to autonomous
Autonomous
Integrated

Total Protocol Rating
Total Item Rating

White NP Competence Inventory

Competencies

Patient Counseling
Staff Relationships
Physician Relationships
Current Role Satisfaction
Total NP Competency

Clinical Skills

Commitment

Generated Variables

Age Group. Three groups were used: those 27 years of age or less, those between 28 and 34 years; those 35 years and older. This was a theoretical rather than pragmatic grouping.

Coping. Nine different styles of coping with the stresses of the program were coded from the interviews, and added for a total coping score.

Desire for Independent Responsibility. Responses were coded to interview question on liking for responsibility. High scorers said, "I like responsibility," or "I need responsibility."

Educational Level. Students were coded as to whether they had
(a) diploma or AA degrees
(b) a baccalaureate degree
(c) a masters degree
(d) pre-baccalaureate degree, academic program
(e) pre-masters degree, academic program

Faculty Rank. Faculty ranked students into three levels of capability and promise at end of the program.

Motives for Training. Motives for entering the training program were coded from the interview, and included lack of challenge in present job, need training and new skills to do what I want, like intellectual stimulation, like independence, like responsibility, want to give direct care to patients, encouraged by others.

Nursing Identification. Mentioned spontaneously in interview either pleasure in being a nurse, giving good nursing care, or excitement over new nursing options.

Socioeconomic Factor. A generated variable describing the practitioner's family of origin. Father's occupation and education, and mother's occupation and education were combined into a single factor score.

Stress of Program. Interview responses were coded as to amount of stress experienced during the program: heavy stress, moderate stress, strong stress with feelings of growth, moderate stress with growth, enthusiasm, no stress.

Support. Two types of support were identified in follow-up questionnaires: (1) NP Support - the work setting employed other nurse practitioners or was planning to; (2) Work Setting Support - the practitioners rated the amount of support they received from others--administrators, physicians, and co-workers at their place of employment.

Work Experience. Previous nursing experience was coded as to whether it was less than 1 year, between 1 and 5 years, or over 5 years.

Work Status. In the follow-up, nurses were coded as to the type of employment they were engaged in, whether it was as a nurse practitioner full- or part-time, a nurse but not a practitionr full- or part-time, not employed, not employed but looking for work, college teacher, college or graduate student, no response.

Work Setting. The place of employment of practitioners was coded from the follow-up questionnaires, as to whether it was in a hospital outpatient clinic, a free-standing clinic such as neighborhood, student, military, or planned parenthood clinic, a public health department, a private medical practice, or a prepaid group practice.

Appendix C

A Cluster Analysis of Nurse Practitioners

A cluster analysis was conducted to empirically define distinct groups of Nurse Practitioners (NPs) according to the adjectives that they checked on the Adjective Check List (ACL). A total of 157 NP tests were used in the cluster analysis.

The results of this cluster analysis were interpreted using a discriminant function analysis that related the NPs' 24 ACL scale scores to the clusters. The meaningfulness of the scales that were most highly related to the discriminant functions provided clues for identifying differences among the groups of NPs.

Finally, analyses of variance were performed to provide construct validation of the interpretations of the clusters. Four clusters of NPs were compared using their CPI scale scores as the dependent variables. The interpretations of these clusters received strong support from this analysis.

Method

The type of cluster analysis that was performed is referred to as minimum variance hierarchical cluster analysis. The computer algorithm, which performs the clustering, seeks to minimize the variance of the distances among members of each cluster by successively joining pairs of clusters (i.e., each person is a cluster, initially), until all persons belong to one cluster. The results of this analysis constitute a tree of n-1 partitions for n people. Each partition is conceivably interpretable as a distinct set of groups of people; a loss function is reported that enables the user to search for optimal partition, to interpret, that is, those partitions with notably smaller within group variance than the next partition with one less group (or cluster).

The minimum variance method assumes the input data is metric. However, in a Monte Carlo simulation study, Blashfield (1977) found that the minimum variance method achieved higher degrees of accuracy in reconstructing clusters than did the nonmetric approaches described by Johnson (1967).

The particular computer program selected for this analysis was programmed by Veldman (1967). The dimensions in the original program were increased to accommodate the 157 x 300 binary matrix, A, in which $a_{ij}=1$ if person i checked adjective j.

A special metric was chosen to represent the similarities of the NPs, as determined by their adjective checking patterns. The basis for computing distances in this metric rests on the notion of each person being represented by a subset of adjectives, X, that s/he checked. The distance measure in this metric was suggested by Ihm (1965), where the distance

$$d(X,Y) = c[(X \text{ not } Y) \cup (Y \text{ not } X)]/c(X \cup Y)$$

is the distance between person (or set of adjectives checked) X and person Y. X and Y are vectors of 1's and 0's, or rows of A. c(X not Y) refers to the number of 1's in X, not matched by 1's in Y. In other words, c(X not Y) represents the number of adjectives checked by person X that were not checked by person Y. c(X U Y) refers to the number of different adjectives checked by both people or c(X) + c(Y) - c(X   Y); entering this term as the divisor normalizes the distances based on the extent to which each pair of people checked adjectives. Each d(X,Y) was computed for the 157(156)/2 pairs of NPs.

The hierarchical cluster analysis was followed by a discriminant function analysis, in which the best partition of clusters was related to the NPs' ACL scale scores on all 24 scales. Finally, the newly identified groups were compared using a priori contrasts in one way ANOVAS with the NPs' CPI scale scores as dependent variables. This last analysis provided some degree of construct validation for the selection of the groups and the interpretation of the group differences.

Results

A plot of the loss-function values recovered in the hierarchical cluster analysis indicated the optimal partition of clusters contained six groups of NPs. The identification of NP membership in each group was combined with each NP's 24 ACL scale scores. A discriminant function analysis of this data provided three significant discriminant functions (^{2} = 72.7, df = 42, p .002). Plots of the first two functions, along with the sizes of groups' centroids, helped identify which groups differed most on which functions.

The standardized discriminant function coefficients for the scales and the patterns of ACL scale means were used to interpret the functions. The interpretation of the differences among the groups on function 1 was straightforward. The largest standardized coefficient identified the Total Adjectives Checked scale as the most salient scale on function 1. The pattern of mean scores supported interpreting function 1 as the difference in adjectives checked function. Groups 5 and 1 checked far more adjectives than did Groups 2 and 6.

The interpretation of function 2 involved several steps. First, the examination of the standardized coefficients of the ACL scales suggested a dominance vs. deference function. Second, the pattern of means on the ACL scales for Groups 1 and 2 versus Group 6 supported this interpretation. However, the pattern of means for Groups 5 and 4 did not. Third, it was decided that Groups 5 and 4 should not be included in the interpretation of the second discriminant function. Both groups' centroids were near the origin, and other functions seemed to better distinguish them from the other groups. Fourth, the patterns of mean scores and standardized coefficients were reviewed in order to contrast Groups 1 and 2 with Group 6. The differences among these three groups suggested a dimension of high to low androgyny, with Groups 1 and 2 being high, Group 6 being low.

Function 3 distinguished Groups 3 and 4. The pattern of mean scale scores was used to distinguish these two groups. Group 3 had very high scores on autonomy and aggressiveness whereas Group 4 had low scores on these scales. Group 4 scored very high on the self-control, abasement, and deference scales; Group 3 scored very low on these scales. These distinctions supported identifying this function as unmitigated agency (Group 3) versus unmitigated communion (Group 4).

Some construct validation of the interpretation of the differences noted among the five groups was sought by constructing two *a priori* contrasts for one-way ANOVAS using the CPI scale scores recorded for the NPs prior to their training as the dependent variables. The high versus low androgyny contrast weighted Groups 1 and 2 with +1, while Group 6 was weighted -2. The second contrast compared Group 3, unmitigated agency, with Group 4, unmitigated communion, using +1 and -1 weights.

The pattern of significant results (p .05) supported the interpretations of the differences found on the ACL. The groups differed on the Dominance and Responsibility scales, on CPI factors 1 and 2, and on all of the other 10 scales identifying factors 1 and 2. They did not differ significantly on CPI scales that were unrelated to factors 1 and 2, except that Group 3 differed from Group 4 on Socialization and Commonality.

(This section was prepared by Rex Green, who carried out the cluster analysis.)

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